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COURSE OF LECTURES
ON THE
PHYSIOLOGY AND PATHOLOGY OF THE BLOOD,
AND
THE OTHER ANIMAL FLUIDS,

DELIVERED IN THE SESSION OF 1839-40,
AT THE
School of Anatomy adjoining St. George's Hospital,

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LECTURE VIII.

The coagulation of blood (concluded).—Density of the clot.—Proportions of serum; in different animals; in different constitutions; in diseases.—Morbid states of the fibrin; practical conclusions.—Serum; its chemical qualities; specific gravity; serosity.—Morbid states of the serum.—Opaline and milky serum.—Varieties in colour, taste, specific gravity, and proportion of its constituent parts.—Halitus, or aura sanguinis.—Odoriferous principles of blood.—Their nature; distinct characters in different animals; in different constitutions.—M. Barruel's experiments.—Odours in diseases.

GENTLEMEN:—In my last lecture, I directed your attention more particularly to the following important facts. Blood commences to coagulate most rapidly in weak animals, in weak states of the constitution, and in diseases of debility, but under the same circumstances, and in proportion to the rapidity of coagulation, the crass amentum has a weak contractile power. On the contrary, when blood is a long time in coagulating, its contractile power is strong, and this corresponds with strength in an animal, vigour of constitution, and entonic and inflammatory action. We must pursue these practical considerations further, as regards,

4. *The density of the coagulum, and the proportion which the serum and clot bear to each other.*—Boyle made the earliest experiments on this subject, and ascertained the proportions by weight. In one instance, he found thirty parts of serum to thirty-eight and a half of clot; and in another, thirty-two parts of the former to thirty-seven parts of the latter. But, here again, we must have regard to certain preliminary considerations, before we can arrive at correct practical conclusions.

I have stated, that a considerable period elapses before the contraction of the fibrin is perfect; it is accordingly impossible to estimate the proportion of clot to serum, until after blood has remained at rest for at least 24 or 48 hours; and the contraction is not even then complete, serum continuing to exude slowly, even for many days. Again, we are aware that the clot always contains a portion of serum, but fibrin, under certain circumstances, retains an unusual quantity of fluid within its laminæ, so as to present the appearance of a smaller proportion of serum to the more solid parts than really exists. In such cases it has been recommended for the purpose of forming a rude estimate, to cut the mass of clot into thin slices, which enables the fluid to separate more completely. It further appears, from the experiments of Mr. Thackrah, that when blood is left undisturbed for a few days after its fibrin has become perfectly contracted, the clot undergoes a contrary change of volume, before putrefaction commences, and the more solid matter increases, while the fluid diminishes in proportion. Table XV. furnishes an interesting illustration of this fact.

The proportion of solid clot was about 28 per cent. on the third day, and as much as 33 on the tenth. The serum became muddy on the fifth, and putrefaction was decidedly evident on the tenth day. Mr. Thackrah suggests, I think correctly, that the serum is pressed out as long as the fibrin remains contractile; but this property being lost, after a time, a relaxation succeeds, and the surrounding fluid re-enters the clot by the ordinary operation of attraction. Whatever the true explanation may be, it is evident, that in order to make just observations on the proportions of clot to serum, the blood must be examined for the purpose, neither too early nor too late, the period for this purpose

may perhaps be extended from 24 to 72 hours after abstraction.

It has been explained, in a former lecture, that the period of coagulation is influenced by the shape of the vessel into which blood is received: the quantity of crass amentum is also influenced within certain limits by the same circumstance. According to Dr. Babington, if the vessel be shallow, the clot will be abundant; if approaching in form to a cube or sphere, it will be scanty. This is exemplified in the four following instances of coagulation, allowed to take place in different shaped vessels, every precaution having been taken to ensure accuracy.

Pear-shaped vessel.

Serum, 10	....	Clot, 14.9
—— 10	....	—— 9.4
—— 10	....	—— 9.6
—— 10	....	—— 12.9

Pint bason.

Serum, 10	....	Clot, 22.3
—— 10	....	—— 17.1
—— 10	....	—— 10.9
—— 10	....	—— 17.1

The clot in the bottle was more dense and compact, and consequently, contained a smaller proportion of serum in its interstices than that formed in the basin; and Dr. Turner explains this fact by the greater or less distance of the contracting particles from a common centre, which causes a more or less powerful contraction. Both the fact and the explanation, if correct, are highly important. The serum also separates most readily from the widest surface, probably from a greater quantity having a less distance to pass through before it escapes; a small quantity of serum will escape without any perceptible contraction. It has been the opinion of some, that when the clot is examined after coagulation, the proportion of fibrin is found to be variable in different parts, but this seems to happen only when the character of the blood is such as to allow the red corpuscles to subside. Dr. Babington remarks, that when blood remains a long time fluid, the corpuscles, by the force of gravity, displace the particles of fibrin at the lower part of the mass. An unusual tenuity may allow of the same effect. Hence, we frequently find the lower part heavier, less firmly compacted together, and containing more colouring matter than the upper; and this occurs, to a great extent, in diseased states of the blood; but the clot has otherwise a uniform composition, and this is accounted for by the homogeneous character of the liquor sanguinis.

Many of the facts which have been previously mentioned, respecting the chemical constituents of the blood and the red corpuscles, correspond with those which are to follow relating to the serum and clot; but the latter require to be considered separately, on account of their involving additional phenomena, referrable to the qualities of the fibrin. The serum may appear to be more abundant, in consequence of the fibrin having contracted with unusual force, and the clot accordingly having greater density, or, on the contrary, the clot may have a greater bulk, in consequence of the weak contractile power of the fibrin. In estimating the proportion of the serum and clot, the density of the coagulum must, therefore, be taken into consideration. These circumstances are usually judged of by the eye, but it is evidently desirable that we should obtain a more correct mode of estimating them. Boyle, Hewson, Hey, and others, adopted the plan of weighing, but this is open to many sources of inaccuracy. For the purpose of measuring the cohesion of the particles of the clot readily, Dr. Brown Langrish employed a tube resembling that of a thermometer. It was made of thin glass, 12 inches long, and one-third of an inch diameter, weighing 3 drachms and 56 grains, and was graduated to one eighth of an inch of mercury, each eighth of an inch being one degree. He placed the bulb on the coagulum, and,

TABLE XVI.

The Proportions of Serum and Clot in the Blood of a Slaughtered Animal, examined at successive Periods after Extravasation.

Time.		Serum.		Clot.		Blood.	
		drs.	grs.	drs.	grs.	drs.	grs.
2	hours.	20 ..	45	12 ..	5	32 ..	50
2	days.	22 ..	30½	9 ..	16	31 ..	56½
3	do.	22 ..	32	9 ..	—	31 ..	32
4	do.	22 ..	4½	8 ..	59	31 ..	3½
5	do.	21 ..	19	9 ..	1	30 ..	20
6	do.	20 ..	33	9 ..	16½	29 ..	49½
7	do.	20 ..	8½	9 ..	23½	29 ..	32
8	do.	19 ..	42	9 ..	30½	29 ..	12½
9	do.	19 ..	12½	9 ..	32½	28 ..	44½
10	do.	18 ..	51½	9 ..	31½	28 ..	23

adding quicksilver, ascertained the quantity which was necessary to bear it down, and was thus enabled to make comparative experiments upon the clot of different specimens of blood. Magendie tried compression; he also recommends, for the purpose of making out the characters of the clot, that we should wash it carefully, so as to isolate the fibrin, and then attentively examine it. The observations that have hitherto been made on this subject are chiefly by the method of weighing, and there is reason to believe, in general, with too little attention to accuracy. In fact, a correct method is still a desideratum in the experimental investigation of the fluids, and we accordingly find that those authors, who have entertained the subject at all, differ much in their statements as to the proportion of serum to clot, both in health and disease.

This will be obvious, when I state that M. Magendie has estimated the proportion of serum in healthy blood at a fourth, or, at most, a third part of the whole, while Boyle, Thackrah, and others, state that it bears the relative proportion to the clot of 10 to 13 or 14. According to the first-mentioned physiologist, so long as it forms about the fourth of the entire mass, there is a species of equilibrium of composition, which coincides with the state of health; but I have great difficulty in believing that the blood admits of so great disparity of composition to be compatible with health. My observations for years past tend to the contrary of this, and I think general experience must be against it. The average may, therefore, be admitted as above stated, viz., as 10 to 13 or 14, but liable to considerable modifications, according to temperament, age, sex, the particular part of the vascular system from which it is abstracted, and a variety of extraneous circumstances.

Hunter and Hewson, with their predecessors, laid considerable stress on the fact, that the proportion of serum to clot differs most materially in different constitutions, the latter being more abundant in strong persons, and the former in those that are weakly. There remains no doubt, also, that these complex products of spontaneous change differ in relation to sex and age, and to varieties in diet and regimen. This corresponds with what is known respecting the proportions of red corpuscles in the liquor sanguinis, and, to a great extent, with the chemical constitution of the same varieties of blood. Mr. Thackrah examined the proportions of serum to clot in different animals; his experiments seem to have been few in number, and he found no uniform disparity in reference to classes of animals. By these experiments, however, he was led to infer, problematically, that the quantity of clot bears a proportion to the strength and ferocity of the animal. This, also, we might have inferred to a certain extent, from our knowledge of the quantity of red corpuscles in the blood of different animals, and from the few facts before us respecting the fibrin. The largest quantity of serum observed by Mr. Thackrah was in the case of a timid sheep, being in the proportion of 10 to 8 of clot; the largest proportion of clot was in the predatory dog, being in one case as 33 to 10 of serum.

Hewson, Hey, Fordyce, and other practical men, long since directed attention to the fact, that blood coagulates into a firmer or looser mass, in proportion to the strength of the system, and that an increase or diminution of density corresponds with the state of the system in disease. In chronic maladies, more especially where the supply of nutritious aliment has been reduced, the proportion of serum is augmented; in acute maladies, as a general rule, the proportion of clot is augmented and its density increased. Dr. Langrish ascertained, by means of his graduated tube, already described, that the degree of cohesion in the clot of healthy blood being represented at from 9 to 10 or 12; in acute fevers, including cases of inflammation, it was about 36, in tertains 23, and in quartans 17. He found a corresponding difference in the proportion of serum to clot. In acute fevers it is represented as 10 of the former to 33 of the latter, in tertians 10 to 25, and in quartans 10 to 16. It must be remembered that these are averages, and that considerable deviations from the ordinary standard happened. In almost every case of acute fever recorded by Dr. Mills, the serum was found to be in very small proportion to the clot. The extreme proportional differences between serum and clot are found in strong plethoric persons labouring under purely inflammatory affections, where the clot is increased in proportion, and in weakly constitutions labouring under diseases of debility, when the serum is increased in proportion. Magendie states that, in every case of serious disease in which he examined the blood, the serum and clot invariably presented some anomaly as regards their respective volumes; and, notwithstanding the wide difference which he states may subsist to be compatible with health, he urges very forcibly that any greater disproportion renders the vital fluid unfit for the performance of its functions. Cases, it is true, often happen in practice, which appear to have an opposite and inconsistent bearing in the above respects; but these seeming exceptions are, in most instances, removed, on reference to the constitution and general condition of the patient.

The greatest attention must then be paid in every observation respecting the proportion which the clot bears to the serum, to the contractile power of the fibrin. When this power is much diminished the fibrin has lost its usually healthy character, and in this state has been called by Magendie *pseudo-*

fibrin. A considerable mass of clot appears, at first view, to be formed, but its weight is much inferior to that with true fibrin, and it is less elastic and tenacious, and breaks on the slightest traction. Thus, there is a seeming inconsistency where some diseases of debility give an enormous proportion of clot; but this, on examination, is found to be a defect of coagulation, and not a deficiency in the proportion of serum actually present. In some acute maladies, again, not a drop of serum will exude. This circumstance has been observed in asthma. The fibrin in these cases has lost its normal contractile power, and has assumed some such character as before described. M. Magendie made some direct experiments, which bear upon this subject. He bled an animal repeatedly, and immediately injected into the vein a portion of water equal to the quantity of blood abstracted, and he fed the animal well during the experiment. Blood abstracted afterwards threw out at first only a few drops of serum; examined subsequently, it had separated a tolerable quantity, but the clot was soft and diffluent. The animal had abundant micturition during the experiment, and the quantity of serum was not apparently increased so much as was to be expected, but this was, for the most part, owing to the altered qualities of the fibrin, in consequence of which it was unable to become a firm, contracted mass.

The following are the most practical general conclusions to be deduced from the various experiments which have been made on this part of the subject:—

1. When the frame is weak and delicate the proportion of serum is found to be large, and when a disease is unattended with fever and inflammation it is usually increased. A preternaturally fluid blood, therefore, corresponds with a combination of these circumstances.

2. In strong constitutions the serum is comparatively small, and in diseases of an inflammatory character it is also found to be diminished; when the serum, therefore, bears a remarkably small proportion to the clot, there is, probably, a combination of these circumstances.

3. Acute disease is not unfrequently combined with debility of constitution, and the increase or decrease of the proportion of serum corresponds with the predominance of one or other of these two opposite circstances—"this is exemplified in phthisis, where there is diminished power and increased action."

These important observations on the process of the coagulation of extravasated blood, correspond to a great extent with the facts discovered by modern chemists, but we must not fall into the error of believing that the former are capable of explanation by the latter. I have formerly stated that there is a greater number of red corpuscles and a smaller proportion of water in strong animals, and in strong constitutions, consistently with health, but when they exceed certain limits they answer to certain pathological conditions, and contribute to those vital phenomena of coagulation we have just considered. A great diminution of the corpuscular part of the blood with a large proportion of water, corresponds with a large quantity of serum and a small clot, and both of these circumstances answer to cases of anæmia, chlorosis, long continued chronic affections, and general debility. But the characters of the serum and clot depend also on the state and proportion of the more anamalized constituents of the liquor sanguinis. Hence it is found that in acute cases an increased quantity of fibrin is frequently found. In inflammation as much as 6, 7, 8, and 9 parts in a thousand. So also there can be no doubt that the quantity and quality of the salts of the blood, and probably adventitious particles introduced into the circulation, exert influences over the process of coagulation.

Before we dismiss the subject of coagulation it may be well to remark, in the first place, that the specific gravity of blood is not necessarily connected with the process, since it sometimes happens that high specific gravity coincides with rapid coagulability, although most frequently the contrary obtains; and, in the next place, the specific gravity of the different parts into which blood separates on extravasation is different. Dr. Jurin originally discovered that the red corpuscles are the heaviest, and Hunter's observations confirm this, as well as that the serum is the lightest, and the fibrin intermediate. Several physiologists have disputed the latter fact, but Dr. Davy, on repeating Hunter's experiments, obtained the same results. In every instance on immersing fibrin in serum it sank, unless buoyed up by air. Dr. Davy says the specific gravity of the different part of extravasated blood is probably variable within certain limits, and consistently with health, according to circumstances, connected with age, sex, climate, diet, and the like; thus the specific gravity varies in

Serum	from	1020 to 1031
Fibrin	....	1046 .. 1060
Corpuscles	..	1087 .. 1132
Clot	....	1074 .. 1087

The specific gravity of the clot depending in part on the proportion of serum which it contained. It will thus be easily understood that the density of the clot will depend in some part on the proportion of red corpuscles. The following, referred to in the last lecture, is copied from Dr. Davy's late work,

TABLE XVII.

Specific Gravity of the first and last Flowing Blood in Death from Hæmorrhage.

Animal.	First.	Last.	Serum of the first.	Serum of the last.
Sheep, 1 ..	.. 1049 ..	.. 1048 ..	.. 1024 ..	.. 1023 ..
—— 2 ..	.. 1050 ..	.. 1044 ..	.. 1027 ..	.. 1022 ..
Lamb, 1 ..	.. 1049 ..	.. 1046 ..	.. 1024 ..	.. 1020 ..
—— 2 ..	.. 1051 ..	.. 1045 ..	.. 1024 ..	.. 1018 ..
Ox, 1 ..	.. 1058 ..	.. 1051 ..	.. 1027 ..	.. 1021 ..

The blood operated upon was arterial. This table not only shows that the blood falls in specific gravity as it flows, but that the serum does so in an equal degree. It follows, therefore, that the composition is changed, and that this change consists rather in an increased proportion of its aqueous part, than in a diminution of animal matters, and, as before briefly noticed, it tends to explain the changes in the phenomena of the coagulation of blood, referred by Hewson, Cooper, and Thackrah, to the influence of the vessels, rather than to the altered composition of the fluid itself.

From the crass amentum, which we have abundantly proved to be liable to very great changes corresponding with different states of the system in health and disease, let us now direct our attention to the serum.

The *Serum* is a product of the mortality of the liquor sanguinis. You are aware of its complex nature, and its chemical composition may be determined on reference to Tables I. and II. For this purpose it is only necessary to subtract the fibrin, hematosine, oxide of iron, and the white matter of the corpuscles, from the constituents of blood, and we have those of the serum of chemists remaining. The proportion of solid matters in serum is about 91 in 1000 according to Table I., and 97.7 in 1000 by Table II. This circumstance is now applied in the diagnosis and prognosis of disease. It has already been stated that the serum gives a slight alkaline reaction to test paper, it answers also to all the reagents in a similar manner as liquid albumen. With respect to its constituent parts: —its water, albumen, fatty matters, salts, and colouring principles, I have shown that they vary in proportion in different states of the constitution, and I have furnished you with just grounds for believing that they do so in a greater degree in diseases. These variations presuppose corresponding ones in the serum itself. The serum differs from the fibrin by its complex composition, and cannot properly be compared with it. It is usually described as an essentially albuminous fluid and is transparent, of a pale yellow colour, slightly saline taste, and somewhat unctuous or viscid touch. Its specific gravity is variously represented by different authors, as follows:—

Wilson, 1020 to 1030; Turner, 1029.5; Bostock, 1023; Thackrah, 1020 to 1030; Müller, 1027 to 1029; Davy, 1020 to 1031.

There can be no doubt that these estimates have very frequently been made from diseased blood, the serum of which is extremely liable to a low degree of density, so that the standard of health is now usually taken at 1029 or 1030 by practical writers. Most of the constituents of serum are obtained separate by coagulating the albumen and pressing out the fluid, and the liquid thus obtained was formerly called the serosity.

The Serosity, first distinguished by M. de Senac, contains the neutral salts of the blood and a small quantity of matter, non-coagulable by heat, held in solution by free alkali. This is shown by the fact, that if we neutralise with acetic acid and boil, this portion of albumen is also rendered insoluble. It was Cullen, I believe, who first gave the name of serosity to this saline fluid; but there is a great deal of confusion in the meaning which was attached to this term by the authors of the last century. Fourcroy, Vauquelin, and other chemists, announced, at an early period, that it, and accordingly the blood, contained gelatin; but Dr. Bostock disproved this notion, conceiving it to be mucus; yet this, also, was found to be untenable. Although the inquiries respecting the serosity cost much valuable time and labour, they may be almost entirely passed over, since the fluid in question is known to contain the salts, fatty matters, and other principles of serum, uncoagulable by heat, without any other particular distinctive characters, and the term itself has been dispensed with by the moderns.

In the facts and observations which I put forward when speaking of the chyle, it appeared that the serum of blood is liable to incessant variations, according to the nature of our food, and the period at which it is examined after meals. The following is an additional most interesting illustration of this. Müller observed, that for a certain time after sucking, the blood of kittens is most frequently, although not always, of a yellowish

red colour, and separates after coagulation into a milk-white serum and red clot, and Rudolphi and Mayer found the same thing in young puppies. Besides this turbid serum of digestion, there is a milkiness of the same, by no means infrequently met with in various degrees as a diseased condition of the blood. In one of the early numbers of the "Philosophical Transactions," a case of this kind is recorded as milk coming from the veins. Hewson describes this diseased serum as sometimes having the appearance of whey, with white streaks swimming on its surface like cream, and now and then being white like milk, whilst the coagulum is as red as usual, and that, when examined under the microscope, it is found to contain a number of globules, which are never seen when it retains its transparency; they are smaller than the particles of blood, and spherical in shape, agreeing more nearly with the globules of milk than with the blood corpuscles. He quotes cases from Tulpius, Morgagni, and Schenckius, and mentions, from his own observations, the case of a butcher, a hard drinker, affected with rheumatism, whose blood was thus affected; the case of a corpulent man, aged 35, in whom it was as white as milk, and became natural after repeated bleedings; and the case of a woman, aged 25, in whom it was as white as milk throughout a six-months' illness. Dr. Traill, of Liverpool, published some cases of the same kind in 1821, and subsequently, with the chemical analysis of the serum. The first was a case of nephritis in a middle-aged man, the serum being of a cream-yellow colour, and more viscid than natural, spec. gr. 1.025; it contained a smaller proportion of solid matter than usual, and, according to Dr. Traill, more especially of salts, with a *redundancy* of albumen; but this must, I think, be an error: it had, also, an augmented proportion of oily matter. The same individual had subsequently an attack of well-marked inflammation of the liver, when the serum presented similar characters. The next case is that of a man of intemperate habits, under a pleuritic attack; he was bled twice on the 21st of April, when the serum was cream-coloured; and again on the 24th, when it was natural. On the 2nd of July, he had a similar attack, with well-marked inflammatory symptoms, and was bled to 24 ounces, with immediate relief, the serum presenting the appearance we are speaking of, with the same chemical characters, but a much lower specific gravity. The last was a case of acute hepatitis; the serum is said to have contained double its proportion of albumen; 4½ per cent. of oily matter, the usual quantity of all the fatty matters of blood being no more than $\frac{7}{10}$ths per cent, with a remarkably diminished proportion of salts and a specific gravity of 1.018. This emulsive appearance of the serum has been also observed in cases of diabetes, dropsy, puerperal peritonitis, and asphyxia after the immoderate use of alcoholic liquors. A well-marked case occurred recently in the wards of St. George's Hospital, under Dr. Wilson, in a female with general anasarca; the serum resembled milk, and had a low specific gravity. Mr. Lane examined it microscopically, and found that it contained a great quantity of globules, as described by Hewson, but resembling chyle granules very closely, and not the milk globules. Hewson, Gregory, Traill, Christison, Babington, Lassaigne, Le Canu, and others, have fully established that this milkiness most frequently arises from an increased quantity of fatty matters in the serum; but it is not so clear what particular fatty principle is thus increased, and extremely probable that it is not always the same. Neither is it clear whether it always consists of an increased proportion of the usual proximate fatty principles of blood; or whether it is owing, in some instances, to a quantity of oil or fat introduced without change, so as to render the blood unhealthy. Lassaigne found it to consist of *cerebrine*; Le Canu and Christison of *oleine*, *margarine*, and *stearine*, like animal fat. Le Canu found a diminished proportion of red corpuscles in blood with milky serum, and believes that in some instances a correspondence subsists between the quantity of fatty matter gained and the quantity of corpuscles lost. In speaking of oil or fat as a cause of milkiness of the serum, I should not omit to mention, that the researches of Tiedemann and Gmelin have led them to the opinion, that the milky characters of chyle depends altogether upon the oily matter which it contains.

One of the morbid characters of serum best made out, is a low specific gravity, corresponding, of course, with a diminished proportion of solid contents, and very frequently with a diminution in its quantity of albumen. Thus, the milky serum above described has a low specific gravity: according to the experiments of Christison, Bostock, Bright, and Babington, it varies from 1018 to 1024, the average in health being 1029. Now, the salts of the blood do not raise its specific gravity above 005, and the specific gravity of the oily matter is below 1000; accordingly, the excess of weight over and above the standard of water, is owing to albumen; the specific gravity, therefore, of milky serum still indicates pretty exactly the quantity of albumen that it contains; and it is probable that Dr. Traill fell into an error, in ascribing an increased, instead of a diminished proportion of albumen to it. Dr. Babington has expressed an opinion, that the excess of oil in milky serum is produced at the expense of its albumen, and he quotes a case of M. Gendrin, recorded in the 39th volume of the "Annales de Chemie," by Caventou, of a very rare na-

ture. It was white, like milk, neutral to test paper, and coagulable by heat, but deficient in every other property of an albuminous fluid, and it contained scarcely a trace of colouring matter. This was no doubt, milky serum, depending upon a change in the properties of albumen, but by no means tending to establish the opinion, that in the more frequent cases, the increased quantity of oil is formed at the expense of this principle.

Without being milky or opaline, the serum of blood is liable to a diminution of specific gravity, corresponding with a diminished proportion of albumen, in several diseased states of the system, in which the urine contains albumen, a substance foreign to its healthy constitution. This happens in many cases of dropsy, with diseased kidney, as ascertained by Bright and Christison, and according to Rayer and Solon, in other states of the system. On the contrary, Gendrin says, that serum contains an increased quantity of albumen, in many inflammatory cases, often as much as twice its usual proportion; and, according to Andral, this may be recognized by increased viscidity of the blood to the touch. Without entering fully into this point, I may say, considering the importance of albumen in the animal economy, that it is probably, the great source of nourishment, existing in large proportion, both in the solids and fluids, considering moreover, that the blood depends, in great part, for its motion and circulation, upon its peculiar composition, and physical as well as vital properties, we can but regard this liability of the serum to change of composition, as regards its albumen, and the corresponding modifications of the liquor sanguinis, to be highly important, and to demand a much more rigid inquiry than has hitherto been accorded to it.

There are other well marked morbid appearances of the serum, which are familiar to every practitioner, and yet very little account is taken of them. In the statistical tables drawn up by Dr. Langrish, I find the following circumstances noted, respecting the taste and colour of the serum, in all kinds of fevers. He examined it in every stage of the disease, in which blood could be drawn with safety.

Bilious yellow, quick saline taste.
Flaming yellow, more brackish than healthy.
Bright yellow, very pungent.
Citron yellow, brackish.
Straw colour, quick saline taste.
Wheyish colour, almost insipid.
Milky, sweetish.
Pale, insipid.
Pale and limpid, little taste.
Pale, viscid and insipid.
Thick, chylous and sweetish.

With other shades of difference. Out of 50 cases of every type of fever there are only two in which the serum of the blood presented a healthy appearance to the naked eye. The bilious and deep yellow colours, and very saline taste, occurred much the most frequently in acute fevers, and the straw-coloured, whey-like, pale milky, and insipid, more frequently in intermittents.

The serum is thus distinctly liable to morbid alterations in the quantity, and no doubt, in the character, of its saline particles, in its colouring principles, and, in fact, not only in these, and its fatty matters and albumen, but in every one of its numerous constituents. Attention has been too much limited to appearances which are obvious to the eye. It is forgotten that these are the exaggerations of disease, and their frequent occurrence presupposes the possibility, nay, establishes the probability, of constantly occurring aberrations, which are not manifest to ocular inspection. At the same time that the case of pure milky serum occurred to Dr. Wilson, in the wards of St. George's Hospital, a case of anasarca occurred to me at the Western General Dispensary, in which the serum was in the highest degree turbid, but not milky. The facts above detailed, leave no doubt that these appearances depend upon various causes of modification in the blood: it is scarcely credible that these causes should not frequently operate in a minor degree. It followed, as a corollary, from the facts contained in the third and fourth lectures, that the serum and clot must be liable to innumerable changes of composition, and, upon the whole, no doubt can be left in the mind, that the liquor sanguinis, as well as the corpuscles of the blood, are deeply involved in every shade and variety of disease.

From the crass amentum and serum, we now proceed to consider the *halitus, or aura sanguinis*, as it has recently been called. It has a peculiar odour, something between that of urine and the cutaneous secretions, with a certain degree of fœtor, and on being condensed, it is described as insipid like water.

Various have been the opinions entertained of the nature of the halitus of the blood. Haller considered it identical with the matter of perspiration. Fourcroy found it to consist of aqueous vapour, with a minute portion of animal matter, which imparts its peculiar odour. Boudet supposed the animal matter to be a volatile acid substance, analagous to the *graisse phosphurée* of Chevreul and Denis. Plenk calls it *gas animale sanguinis*, believing it to be composed of hydrogen and carbon, and to produce important effects on the animal economy. Dr. Bostock, in his "Physiology," regards it as aqueous vapour, necessarily arising from a fluid considerably warmer than the air in contact with it, which, during its evaporation, carries off a minute quantity of animal, and perhaps saline, matter.

I have already mentioned, in a chemical point of view, the odoriferous principles of the blood. M. Denis states that there are three kinds of substances to which the odour of blood may be referred.

1. Substances which give an alliaceous odour. This may be observed from the moment blood is extracted from its vessels, and as long as it maintains its temperature, becoming much more feeble as it cools. This odour is supposed to emanate from the whole of the fatty matters of the blood, and especially from the cerebrine and the volatile fatty acid. It may be extricated from these fatty matters when isolated from the other proximate principles.

2. The odour of M. Barruel. It appears from this gentleman's "Memoirs," not only that the halitus of the blood of man contains an odorous principle, which distinguishes it from that of any other animal; but that the same principle may be set free from dried blood by the action of sulphuric acid. Blood dried in a sand-bath was triturated without affording any peculiar odour; it was then boiled in sulphuric acid and water, when there issued from the flask so intolerable a stench of human perspiration, that the operator was obliged to make good his retreat from the laboratory. This odour may also be observed by pouring a small quantity of blood into a glass, and throwing over it about a third or half its volume of concentrated sulphuric acid, stirring it with a glass rod. M. Barruel's researches lead him to conclude, that the blood of each species of animal contains a principle peculiar to itself, which is highly volatile, and has an odour like that of the perspiration or cutaneous and pulmonary exhalation of the animal. That it is combined with the blood; and when the combination ceases, it is not only possible, but easy to recognise the animal that furnished it; and in all animals it is more intense in the male than in the female. M. Denis remarks, that the pre-existence of the cause of this odour in the blood is evident, since it may be perceived by close attention, after the fluid is cool, in different varieties; and he renders it highly probable that it depends on the volatile fatty acid formerly described, which differs in every species of animal. Thus it would appear that as different vegetables have different volatile oils, so also in animals there is a different volatile principle for each species contained in the blood.

3. The blood is also liable to derive particular odours from various foreign substances; it has been known to imbibe them by means of the air introduced by the lungs, or the solids and liquids taken into the stomach, or the reabsorption of retained products of secretions and excretions. Minute particles thus taken into the circulation are rapidly separated again, under ordinary circumstances, by secretion and excretion; but sometimes they are not immediately eleminated, and the blood becomes impregnated with deleterious molecules, by which the whole range of functions are disordered. These substances are, however, in general so rapidly cast off, that it is futile to endeavour to detect them by chemical analysis: their odour alone remains, and this can only be observed by the proper sense. Alcohol, phosphorus, garlick, camphor, and turpentine are frequently recognised by their odour, when every endeavour to procure them from the blood in a separate form would prove useless.

M. Orfila averred that the difference between the halitus of the blood of different animals is so great that he could distinguish a stain of human blood from that of any other animal, though only of the size of a sword's point. Lauret, Chevalier, and Barruel support this assertion to a great extent. It is said by the latter, that provided the stain be tolerably large, it is easy to recognise the kind of blood, even after the lapse of fifteen days. The portion of linen stained must be cut off, placed in a glass vessel, and allowed to lie undisturbed in a small quantity of water for some time. When the spot is well soaked, sulphuric acid is poured on it, stirring it about with a glass rod. The blood of the horse gives the odour of horse-dung, or, of the perspiration of the animal; that of the ox a strong odour of a cow-stable; that of the ewe a strong odour of wool impregnated with its oil; in that of the dog we find the odour of its tranpiration; in pigs' blood the smell of the pigstye; and rats' blood gives the peculiar odour of that animal. M. Barruel was enabled to distinguish in a similar manner between the blood of fowls, ducks, and pigeons, as well as that of many of the lower animals. M. Raspail urged very cogent reasons against the applicability of these facts in legal medicine;—in the first place, only a small number of animals were operated upon; secondly, the effects of accidental or designed impurities are not calculated; and, thirdly, the characteristic odour of different species varies in individuals, and according to the state of health in every separate animal. Still, the correspondence between the odour of an animal and the volatile principles of the blood is remarkably illustrated by the following anecdote. The blood of a man, of a woman, of a horse, and of an ox, was sent to M. Barruel. He distinguished the two last, and pronounced that the two first were human blood, but he mistook the blood of the man for that of a woman, and the female blood, for that of a man. It turned out that the woman was of a dark complexion and masculine character, while the man was of a lymphatic temperament with a delicate skin and no beard. I must not omit to state, that it seems to be well known, that

this gentleman had a remarkably delicate sense of smell.

It is to the halitus of the blood, or to the odoriferous principles developed from the blood, that most of the observations which have been made in all ages, respecting the odour of the body, are to be referred; but they also depend, in part, upon the sebaceous secretions and the perspiratory fluid. I shall have to recall your attention to the facts, when the subject of the secretions generally is before us; but I prefer introducing them now, because, in either case, they are emanations from the blood, and I believe they are more intimately connected with transpiration and exosmosis than with secretion. To the halitus of the blood, or the animal principles before referred to, on which its odour depends, may be traced the peculiar fœtor of our domestic animals, which is more marked in those which are carnivorous than in those which are granivorous, and liable to modifications similar to those which occur in the human body. The halitus of the blood, and accordingly, the peculiar odours emanating from the secretions, are ranker in adults than in children. In infants at the breast a peculiar odour, a mixture of sour and sweet, which can scarcely be described, but is well known to mothers and nurses, is characteristic of health. It pervades all their secretions, and is owing to the milk which they take for food. The peculiarity of their diet produces a peculiarity in the odorous halitus of the blood, and, accordingly, in all the fluids which are eliminated from it. When this odour becomes unusually strong, either in the halitus from the lungs or the skin, or in the secretions, or if otherwise modified, a derangement of health is indicated. A ranker, and even a peculiar odour, occurs at puberty, in the male sex, and ceases as age advances and virility declines; this is not distinguishable in the female sex, the halitus here being faint and sweetish, except in particular instances, where the constitution approaches to that of the male. In eunuchs this change of the halitus is said to be wanting. Climate seems to have a considerable influence on the constitution of the blood, as shown by the odour of the halitus. This is exemplified in the intolerable rankness of the negroes and other varieties of the human race in the Torrid zone. An insupportable stench has been observed to emanate from the bodies of the Finlanders and Esquimaux, inhabitants of the Polar regions. We must not, however, refer this rank odour to climate alone; no doubt peculiarities of diet have a great deal to do with it. I have already mentioned the effects of various volatile substances taken into the system, the odours of which have been observed, not only in the cutaneous and pulmonary transpirations and in the secretions, but also directly in the halitus of the blood abstracted from the system. It is furthermore incontestible, that peculiarities of temperament and idiosyncracies are frequently marked by peculiarities in the character of the halitus.

Various remarkable peculiarities of the halitus have been observed in diseases, but the subject is one that does not admit of great precision, owing in part to the difficulty which exists in distinguishing and describing minute shades of odour. The odour emanating from the bodies of the sick, in some fevers, has been compared to mice; sometimes it is earthy and cadaverous. That of the perspiration in intermittents has been likened to the vapour from fresh coarse bread. In infantile remittants it is frequently faint and "acid." In small pox, before the eruption, an odour somewhat resembling that of onions has been observed, becoming more fœtid as suppuration took place. In measles and in mild miliary eruptions it is slightly acid, but when the latter occurs in typhoid fevers, it is then putrid.

In epidemic and malignant diseases numerous authors have described the fœtor of extravasated blood, and with respect to the plague, this has been almost uniformly observed. Dr. Copland quotes a case of three persons being struck dead by the odour exhaled from the blood drawn from the vein of a person infected with this disease. Physicians, also, have been dangerously infected in the same manner; and Haller once prognosticated the fatal issue of a case from this symptom occurring in a highly-marked degree. The odour of the halitus, or general transpiration from the body, is so peculiar in mania, that many authors declare it to be the most certain pathognomonic sign, and it has been remarked in our own hospitals, in cases of fever, that an odour of very peculiar character emanating from the body is indicative of the brain being deeply involved in the disease.

In the gouty and rheumatic diathesis it is mostly acid and acrid, and sometimes earthy. In chronic cutaneous eruptions it is almost always fœtid, although, by careful observation, differences may be observed; in some it has a distinctly mouldy, and in others an acrid and empyreumatic character. In elephantiasis the halitus from the lungs is described as being, for the most part, fœtid. Porrigo favosa exhales an odour, which has been compared to the urine of cats, and to that observed in places infested with a great number of mice; in some instances of the same complaint it has been compared to rank butter, and in others to milk beginning to turn sour or putrid. The perspiration in phthisis, in the earlier stages, is acrid, and fœtid in the more advanced stages, and the secretions and excretions assume a cadaveric smell. The cancerous constitution has been observed to exhale an excessively fœtid odour. The effluvia of the lochia in females

of a bad constitution is sometimes very strong, but it must be remembered that this does not depend altogether upon the general corruption of the blood, but frequently upon the retention of clotted blood, which has become putrid in the vagina and uterus. There are innumerable facts of this description to be met with in authors; but I shall conclude with the following, from Dr. Christison's work on "Diseases of the Kidneys"—on evaporating to dryness, blood which was afterwards proved to contain urea, a fœtid odour exhaled "exactly the same as that of the patient's breath during life." It cannot, I think, be doubted, that some of the most subtile particles of the blood, more especially those of a volatile character, escape from the vessels during life, in the form of a fine vapour, gas, or halitus, or combined with the various secretions and excretions from the vital fluid.

These facts alone prove incontestibly that the BLOOD is permeated by subtile material principles in a great many diseases. They may be imperceptible while combined with it, although possessed of powerful sensible qualities when separated, either in the course of its circulation or after its extravasation. They are, as we see, frequently of the most offensive character, and sometimes poisonous. Disregarding, for the present, every question respecting the primary and secondary importance of the blood, in the animal economy, you see, Gentlemen, that the properties of the *crass amentum*, the *serum* and *aura sanguinis*, are essentially connected with the phenomena of health, and with the *characters* and *symptoms* of diseases.

ON THE

FUNCTION AND DISEASES OF THE WOMB.

By CHARLES WALLER, M.D.

Delivered at his Class Room,

BARTHOLOMEW-CLOSE, BARTHOLOMEW'S HOSPITAL,

In a Course of Lectures on Midwifery and the Diseases of Women and Children.

LECTURE 5.—*Dysmenorrhœa, with membranous formation; symptoms.—Dr. Denman's opinion that the disease necessarily produces sterility incorrect.—Pregnancy sometimes the means of cure; danger of confounding the symptoms with miscarriage.—Opinion to be given under such circumstances.—Treatment of the disease.—Opinion of Dr. M'Intosh.—Dysmenorrhœa without membrane; symptoms and treatment.—Cessation of menstruation.—Period various.—Considered by women as a critical time.—Erroneous opinions of old authors; treatment required; sometimes mistaken for pregnancy.—Means of diagnosis.—Sterility; its causes; various opinions, generally the result of constitutional defect.*

DISORDERS OF THE MENSTRUAL FUNCTION

(*continued.*)

Dysmenorrhœa.—The last variety of disordered menstruation which I have to bring before your notice, is one which is very common, and also very harassing to a female, it is called dysmenorrhœa (*difficult* or *painful* menstruation). The subject of this malady menstruates at the regular and proper periods, but at the same time experiences an intensity of pain, scarcely exceeded in amount by the actual parturient efforts of the womb, at the time of labour. Dr. Denman says, and says truly, "The pain with which some women menstruate, at each period, is sufficient to render a great part of their lives miserable." The excitement, attendant upon this state of suffering, has, in some women, produced actual delirium. The evacuation, although regular in its recurrence, is, in some cases, very deficient in quantity; and, indeed, there is sometimes no proper menstrual secretion, but, in its stead, a tough, thick membrane, resembling the tunica decidua of pregnancy, is discharged, the uterus acting forcibly as in labour: a small quantity of blood generally attends its expulsion. The membranous portions vary greatly in size, being sometimes large, at others mere shreds, but they will be found to present the same general appearances; one surface is smooth, whilst the other is rough, and shaggy. Dr. Denman, who paid attention to this variety of dysmenorrhœa, asserts, that "No woman, in the habit of forming this membrane, has been known to conceive whilst such habit exists." This opinion is not correct; many well-authenticated cases, proving the contrary, have occurred: two or three have fallen under my immediate notice. Where impregnation takes place, and especially if the female should proceed to the full term of utero-gestation, a radical cure may, with some degree of confidence, be anticipated, the process of child bearing effecting so complete a change of action, in the vessels of the menstruating membrane, that they afterwards perform their office with regularity and without pain. If, therefore, conception could, with any degree of certainty be calculated upon, there would be no objection, but, on the contrary, everything to encourage a recommendation which has been considered by many as a likely method to obtain a cure, viz., that the female should alter her sexual condition. It happens, however, unfortunately, that women suffering under dysmenorrhœa, attended with membranous formations, do not conceive so readily as those whose monthly secretion is regularly and properly performed; still you will find the exceptions to this general rule are sufficiently numerous to induce you to pause

before pronouncing irregular menstruation to be an *obstacle* to marriage.

From the peculiar symptoms attending this form of the disorder, viz., the expulsion of membrane, similar to the decidual, the bearing down pains, the discharge of blood, &c., you are liable to the mistake of supposing that the female has miscarried. If the subject be a married lady, the error will be of no consequence; but should she be unmarried, suspicions, the most unjust, unfounded, and fatally injurious to her reputation, will be excited, if not set at rest by the deliberate opinion of the practitioner in attendance. Now, it is very difficult, if not, in some instances, impossible, to distinguish the one membrane from the other; the general character of the female should be taken into the account with various other circumstances, which cannot well be brought before you in a lecture, but which will be suggested by your own judgment. I am persuaded, that in a very large majority of cases, it would be better for you to quiet the suspicions which may have been aroused, and to treat the case as dysmenorrhœa, where no trace of a fœtus is discernible.

Treatment.—So far as regards the cure of this affection, we must acknowledge the treatment to be very unsatisfactory, but *relief* may generally be obtained *at the time*, and, by a repetition of the same palliative means at each successive monthly period, the intense pain may be prevented, and the female rendered much more comfortable than she would otherwise have been. Anodynes are the only class of medicines upon which much reliance can be placed, and of these opium is the most certain, and should always be selected, unless contra-indicated by some peculiar idiosyncracy of constitution; if combined with a diaphoretic, the effect will be more decided; the following is my usual draught:—

Solution of acet. of ammonia, ℥iij;
Syrup of poppies, ℥j;
Tinct. of opium drops, x to xv;
Camphor mixture, ℥j. A draught every 3rd, 4th, or 5th hour; at night, mercury with chalk, grains v.; compound ipecac. powder, gr. x. to gr. xv. The state of the alimentary canal must not be lost sight of, as an accumulation of fæces in the rectum aggravates every disorder of the womb. Should opium disagree, hyoscyamus may be tried; a draught, composed of tinct. of hyoscy. ℥j; comp. sp. of ether, Mxx; syrup of poppies, ℥j; camphor mixture, ℥iss, will sometimes afford relief; you may likewise employ the hip-bath, followed by friction, with anodyne embrocations over the lumbar and uterine regions, but much confidence cannot safely be placed upon these means.

In some cases the formation of this membrane may be attributed to an action of the vessels fairly amounting to inflammation, and here the antiphlogistic treatment, to a certain extent, will be necessary. Cupping from the loins, followed by the application of ten or twelve leeches to the vulva, should be immediately had recourse to; you relieve pain afterwards, by employing the anodyne plan before recommended. During the intervals of menstruation, a slight mercurial course will be serviceable as tending to alter the action of the menstrual vessels. Again, dysmenorrhœa may be the result of a rheumatic affection of the womb; this is usually accompanied with the signs of rheumatism in other parts of the body, the uterus not being the only part affected. Your remedial plan is here to be directed to the general disorder, and those medicines exhibited as are known to relieve rheumatic affections; the colchicum, for example, either in the form of wine or the powder; the old tinct. guaici. am., has also had its advocates; sometimes the pain seems to proceed from a spasmodic condition of the organ. Opium and the warm bath seldom fail in giving relief in these cases.

Dr. M'Intosh supposes this painful affection to be referrible to a thickened state of the os and cervix uteri, by means of which its orifice becomes narrowed, and in some cases nearly closed; he, consequently, recommends the use of the bougies, for the purpose of dilating these parts. Of this plan, *from personal experience*, I can say nothing; but it seems to me difficult to explain the effect by the cause here attributed to it.

Dysmenorrhœa without membranous formation.—Women sometimes experience great pain at the menstrual periods, quite equal to that already described, but the circumstances attending the discharge vary. There is no deficiency, but, on the contrary, rather an augmentation of the flow, and if this be examined, you will often find that clots of large size, are passing away, showing that the effusion is in great measure sanguineous. So far as my own observation has extended, the subjects of this variety of dysmenorrhœa, are weakly and delicate, of an easily excitable, nervous or hysterical temperament; great prostration of strength is experienced at the time; the extremities, and sometimes the body, generally are of an icy coldness; the pulse feeble, though quick; the countenance is sallow, and its expression anxious. The treatment of these cases is much more satisfactory than that of the previous variety; you will seldom fail in affording complete relief, if the patients will adhere to the plan proposed to them. The female should be confined to her *bed*, as nothing tends more to lessen if not altogether subdue her pains, than external warmth: if she still remains cold, a glass of weak and hot gin and water is to be allowed her, and when reaction has taken place, the hyoscyamus, ether, and camphor mixture before prescribed, in some

instances of membranous menstruation, with or without the addition of opium, as circumstances may require, will be found serviceable. This form of dysmenorrhœa does not interfere with conception, and it often happens that pregnancy cures the disorder, so that after marriage you frequently hear no more of the complaint, the action of the vessels of the uterus as before stated, being so completely altered by the process of gestation.

Whilst you are attending to the uterus itself, at the period of menstruation, it is important for you not to neglect the general constitution during the intervals. Examine into its state, whether plethoric or debilitated; if the former, use depressing medicines, with low diet; if the latter, and this will generally be the case, you must employ tonics and a generous diet. In every case the bowels should be strictly attended to, and all sources of irritation avoided, as the period is approaching; the recumbent position to be for the most part enjoined, and all active exertion forbidden.

In conclusion, I would advise you to be exceedingly careful in giving your prognosis, I mean as regards a *cure;* in many instances you can only relieve; the disorder, however, in these cases, appearing at last to wear itself out.

Cessation of Menstruation ("turn of life") ("critical period.")

I have before observed, that the time when the menstrual discharge ceases, is regulated by its first appearance, commonly continuing for the space of thirty years. Cases are, however, on record, where the catamenial function has regularly continued for a much longer period, the female, for example, begins to menstruate about her fifteenth year, but does not cease until the fiftieth, fifty-fifth, and, in some very rare instances, not until the sixtieth year; but it is generally found that about the forty-fifth year indications are experienced of the coming event. In some rare cases the discharge gradually diminishes, and at length totally disappears without producing any feelings of inconvenience, but this is not common; there are generally irregularities, the discharge sometimes being absent for six or seven weeks, and then appearing either more copiously than natural, or in deficient quantities. Again, you may, on the other hand, have the discharge not only profuse but frequently repeated, and often *sanguineous;* in truth, in almost every case where there is profuse discharge blood is effused; this you will recollect is easily distinguished by its power of coagulation. This period is usually designated by women "the dodging time," an epithet which characterises their condition with tolerable exactness. There is often at this time a considerable degree of constitutional irritation, with an increased determination of blood to the *head*, or to some other part of the body. If you are consulted by a female at this period, you will see the great necessity of directing attention not to the uterus alone, but to the state of the constitution at large. Most women look upon the cessation of menstruation as a critical time, which they call "the turn of life," and although their fears are often groundless, for it is not reasonable to suppose that the cessation of this function (which is as natural as its commencement) should invariably and of necessity give rise to disease, yet it is an unquestionable fact, that if there be a morbid disposition in any part of the body, more especially should it exist in the womb or in the breast, there will be a more rapid progress at *this* than at any previous period. The older authors attempted to explain this circumstance by the supposition that the "menstruous blood" possessed qualities of a peculiarly noxious quality, and, therefore, very naturally considered its retention to be the cause of disease in some part of the body. The opinion is perfectly erroneous, and the true explanation of the reason why we so frequently witness an advance of disease at this time is simply this, that the constitution, or the parts disposed to take on morbid action, are not now, as heretofore, relieved by the local evacuation. If, then, there be symptoms of uterine or any other disorder, the consequences may be most serious if they be not promptly attended to. Are there not many cases of cancer uteri which we may fairly ascribe to neglect at this important period? Females at this time frequently complain of great irritation in the pelvis generally, the uterus, bladder, and rectum being equally involved; the symptoms complained of are a bearing down sensation, tenesmus, often described as a "forcing backwards," frequent inclination to pass urine, together with heat and smarting at the orifice of the urethra; the vagina is also in a tender condition, an examination producing great pain. This state of parts is effectually relieved by the application of a few leeches to the vulva, the use of warm fomentations and injections, with the internal exhibition of an alkaline laxative. My favourite combination is the following:—

Sulphate of potass. ℈j to ℈ss;
Solution of potass. Mxv;
Tincture of hyoscyamus, ℈ss;
Peppermint water, ℥xj. Thrice a-day.

Where there is much irritability of the general system, sleep may be procured by the use of a full opiate at bedtime. In females of strong and plethoric habits, especially where there are marks of cerebral congestion, blood must be taken in larger quantities, either from the nape of the neck by cupping, or by venesection from the arm, and it will probably be necessary to repeat

these means of lowering the circulation periodically, for a few months, allowing a four weeks interval to elapse between each bleeding. Free purging is also required, and a very spare diet; in short, the antiphlogistic regimen should be enjoined in its full extent. Hepatic and dyspeptic disorders are by no means uncommon at this period, and require the same treatment as at other times. From the notion already referred to, that the cessation of menstruation necessarily produced disease, some have most injudiciously recommended the use of stimulating emmenagogues. I shall not insult your common sense by attempting to prove the absurdity of endeavouring to keep up a discharge, which nature intends should altogether cease, considering it too obvious to require more than a passing notice. Should the individual be in perfect health without any tendency to disease, she will suffer no particular inconvenience, unless we consider the increase of size which then takes place to be such, and really in some persons an increase in the adipose deposit occurs to a most uncomfortable degree. A tympanitic distention of the abdomen happening at the same time has often deceived the patient, she herself imagining that she was pregnant, an error for the rectification of which you will probably be but little thanked. "Most women," as Dr. Haighton (I think) used to observe, "had much rather fancy themselves with child than believe they are approaching that age when such an occurrence will be beyond the bounds of possibility." The medical attendant cannot be long deceived, for the usual signs marking the occurrence of pregnancy are absent, the abdomen enlarges *generally*, and feels soft and flabby, there is no protrusion of the umbilicus; if motion be felt, and this is often produced by flatulence, it will be experienced, not in the region of the uterus *alone*, but sometimes in one position, sometimes in another; there is a variation also in her size. I shall not now enlarge upon this subject, as we shall hereafter have to inquire more minutely into "the signs of pregnancy."

Sterility, or Barrenness.

Various opinions have been entertained respecting the causes of sterility. They may be divided into two sets, the organic and the functional. Under the former head (organic causes) we may notice imperfect development of the uterus or ovaries, and in some rare instances their entire absence; where these deficiencies exist, the changes described to you in a former lecture as characterising the age of puberty do not occur, and, as I have already observed, there is no menstrual flow. Obliteration of the fallopian tubes sometimes occurs, either as an original malformation, or as the result of inflammation, and where this happens, that access of the male semen to the ovarian vesicle which is necessary for the process of conception is unavoidably prevented, and barrenness is the result. It is believed by some that too frequent sexual intercourse may produce this closure of the tube by inducing inflammatory action, and they state this as an explanation of the reason why few prostitutes, comparatively speaking, conceive. But we should not hastily infer, that these unfortunate creatures rarely become pregnant, because they so seldom proceed to the full period of gestation. I apprehend if we were fully acquainted with their habits, that we should find a great number of miscarriages taking place amongst them, their dissolute and unhappy mode of living greatly conducing to this event. In the general I believe the cause of sterility is not attributable to organic defect, as the generative organs are usually well formed, but to derangement of their functions, this derangement not unfrequently depending upon constitutional causes. The state of the catamenial secretion should be carefully investigated, as this is the index which points out the healthy or unhealthy condition of the uterus. Should this function be deranged, your next inquiry is, whether the womb itself is at fault, or whether there is a generally-disturbed state of action in other organs of the body. Where the womb appears to be the principal seat of this disorder, a very mild course of mercury, exhibited with caution, is well calculated to alter the morbid action of the vessels of the menstruating membrane, using at the same time a tepid sea-water bath. As there is in most cases debility of system, conjoined with, if not producing, faulty uterine action, the most condensed form of tonics will be required, and, indeed, in a great majority of cases (the organs being perfect) attention to the general health is the only probable method of removing this condition. I may lastly observe, that the uterine system may be acted upon by the semen of one person, and not of another. I recollect a case which strikingly exemplifies this fact; a female was married at 21, and lived with her husband for 20 years, but had no child. At 41 she was left a widow, and soon afterwards married again, and was delivered within the year of a healthy full grown infant. I would just say, in concluding this subject, that very fat women do not conceive so readily as those of spare make; I do not mean to say that obesity in itself produces barrenness, but I cannot help reminding you of the well-known fact, that a defective condition of the ovary, as also its entire absence, is always attended by large deposits of adipose substance.

CONTRIBUTIONS
TO THE
PATHOLOGY OF CHILDREN.

BY P. HENNIS GREEN, M.D.

TUBERCLES OF THE BRAIN.

Case I.

Acute affection of the brain at the age of nine years, followed by some singular action of the muscles of the face; sudden attack of convulsions followed by coma; death on the eighth day.

Jean Humanery, 9 years of age, was admitted into hospital on the 29th of March, 1833. The mother of the boy died of pulmonary consumption. At the age of seven he was seized with a cerebral attack, which manifested itself by a succession of convulsions, delirium, and coma. These disappeared in twenty-four hours, and were followed by amaurosis, which persisted for nine days; the sight was then restored, and for two years he seemed to enjoy good health, but the face was occasionally the seat of some convulsive movements.

Towards the middle of March, 1833, the patient complained of some pain in the abdomen, accompanied by diarrhœa, cough, and fever; and these symptoms persisted with more or less intensity, until his admission.

March 30. Face flushed; skin hot; pulse 124; tongue red at the edge and top; thirst; abdomen painful; three fluid stools during the day; slight cough; no expectoration; sound of chest normal; some mucous râle on the left side; no cerebral symptoms; sleeps well; gum draught; emollient lavement; cataplasm to abdomen.

On the 2nd of April two cupping glasses were applied to the right side of the chest.

April 3. The febrile symptoms persist; some dulness of sound with crepitation is discovered near the lower angle of the scapula, on the left side; eight leeches to the affected part.

5th. A blister applied over the same point. The symptoms of the thoracic affection now gradually disappeared.

From the 7th to the 22nd the febrile state persisted, although it was impossible to discover the existence of any disease in the chest or abdomen.

The child asked permission to leave the hospital on the 19th, and was to have been removed on the 23rd.

On the 22nd of April, at eight o'clock in the evening, the child was suddenly seized with violent convulsions, and on examining him at a quarter to nine the following symptoms were noted:—Face of a natural colour; eyelids half open; eyes turned upwards; no strabismus; pupils enormously dilated, and not contractile; irregular movements of the lips, with permanent deviation of the mouth; the tendons of the four extremities affected with violent subsultus, particularly on the right side; respiration frequent and stertorous; pulse small, 160; abdomen tympanitic; skin covered with a warm perspiration. After a lapse of five minutes the extremities on the left side of the body were paralysed. In ten minutes all the limbs were paralysed; the face now became red; the eyes fixed; there was trismus with convulsive movements of the lips, and soon after most violent convulsions of the right side, while the left side remained motionless. In twenty minutes all convulsive movement had ceased, the respiration became more difficult, and the boy died at four o'clock in the morning.

Body examined on the 24th, at eleven o'clock.

Head.—Arachnoid excessively dry; some yellow granulations exist in the pia mater along the left side of the great fissure of the brain, and especially along the course of the vessels, which are remarkably injected on all sides. The pia mater is adherent to the cerebral substance along a few yellow spots of infiltration. On cutting into the substance of the brain a tubercle of the size of a horse-chesnut is found in the left hemisphere (posterior lobe), the surrounding cerebral substance being softened and of a yellow colour. The left lateral ventricle contains about one ounce of turbid serum; fornix softened; the right hemisphere, the cerebellum, and spinal marrow are healthy.

Chest.—The lungs are united to the parietes of the chest by false membranes, which contain several tubercles; the latter also exist under the pleura pulmonalis, but the tissue of the lungs is entirely free from them; heart and pericardium healthy.

Abdomen.—The intestines are agglutinated together by false membranes, which contain tubercular matter; mucous membrane of the stomach, pale and firm. Underneath the mucous and peritoneal linings of the small intestines there are numerous tubercles, and on separating the adhesions of the convoluted intestine it is found to have been perforated here in several points.

Liver, of a pale straw colour; the concave surface lined by a false membrane, which contains some tubercles; spleen studded with the same.

Case II.

Scrofula; nervous tremor of the left side of the body; epileptic attack; stupor; death.

Adolphe Marinet, 12 years of age, endowed with a precocious intellect, but of feeble constitution, was admitted into hospital on the 11th of March, 1833, for scrofulous ulcerations and tumors: for the last 15 days he had likewise been affected with

irregular involuntary movements of the left arm and leg, without paralysis, contracture, or diminution of sensibility; no movements of the muscles of the face; pupils not dilated; sight clear; intelligence perfect; respiration and pulse quite regular; no sign of abdominal disease; no diarrhœa, or pain in belly; no loss of flesh.

In this state the patient continued until the end of May, when he was suddenly seized with two violent attacks of epilepsy; the mouth foamed; the eyes were fixed; the pupils enormously dilated; the face purple coloured; the respiration stertorous, and the loss of consciousness complete. The second access was so violent as to threaten immediate dissolution; the child, however, came to himself in about an hour, and merely continued stupid for a few days. When able to give an account of his feelings, he said, that the access commenced by a pain in the left leg, which rapidly mounted to the head, when he lost all consciousness.

Some draughts, containing æther, were administered, and blisters applied to the legs. The scrofulous ulcerations of the thigh continued to extend daily, and the left limb became permanently contracted; the little patient's flesh gradually fell away; and his intellectual faculties became weaker. During the last two months he had occasionally suffered from diarrhœa; this became constant, towards the commencement of June; on the 17th, hæmorrhage took place from the intestinal canal, to the extent of half a pint, which reduced the boy to the lowest state; he soon fell into complete coma, and died on the morning of the 18th.

Body examined 24 hours after death.

Head.—Dura mater healthy; arachnoid transparent; no effusion into the great cavity. Near the union of the middle and posterior thirds of the right hemisphere there is a mass of tubercular matter, imbedded in the substance of the brain, and as large as a fist; the mass is homogeneous, of a light yellow colour, and mamellated on the surface; the surrounding nervous tissue is softened to the depth of an inch. The softened part is of a whitish colour, slightly tinged with red. The right ventricle contains a very small quantity of fluid; the other parts of the brain are healthy.

Chest.—There is a small tubercle in the right lung; the organ itself is perfectly healthy, as is also the left lung; no tubercular matter in the bronchial glands; pericardium and heart normal.

Abdomen.—Some miliary tubercles in the subperitoneal membrane of the intestines. Stomach healthy. The whole of the small intestine presents numerous points of ulceration, seated for the most part in the *glandulæ agminatæ* and *segregatæ*; they are most numerous near the end of the ileum. The edges of these ulcers are of a purple colour the bottoms irregular, and containing debris of tubercular matter. The mesenteric glands enlarged and tubercular. The left inguinal region, the seat of a large scrofulous tumor, which had produced severe pain during life, was carefully examined, but no lesion of the crural nerve could be discovered.

Remarks.—The lesions of the nervous centres, in the above case, were very analagous to those observed in the preceding one; yet, what a difference in the symptoms and progress of the disease: and, again, what a disproportion do we find in the last case, between the functional derangement and the extensive pathological changes discovered after death.

Before his admission into the hospital, the child had suffered severely from scrofula; the only symptom of a cerebral affection which he presented was the nervous tremor of the left side, and this bore a good deal of resemblance to chorea; the nervous movements continued for two months; the boy was then seized with two violent attacks of epilepsy, which left after them some stupor merely; for the contracture of the left thigh might reasonably have been attributed to the scrofulous disease. Finally, towards the end of the complaint, intestinal hæmorrhage set in, and gave rise to a degree of prostration which terminated rapidly in death. We may ask whether the rapid prostration and stupor depended on the loss of blood, or on the cerebral affection? This would be a difficult thing to decide. On examining the body after death, extensive alterations were found in the cavities of the cranium and abdomen: the tubercular affection, here, as in several other cases, having implicated chiefly the brain and the lymphatic glands, leaving the chest comparatively free. This is far different from what we observe in the adult.

Case III.

Hereditary tendency to tubercles; irregular convulsions during five months; rotation of the head.

Barnard Fessing, 4 years of age, was admitted into hospital on the 30th of November. The mother of this child died of consumption at the age of 39; his brothers, as well as himself, are affected with rickets; the extremities and chest are much deformed, but the head is well shaped. Three months ago the child caught measles, and then hooping-cough; the latter continued for two months, but was soon succeeded by a common cough with irregular attacks of convulsions.

On examining the child we found him pale and thin; the skin was dry and dirty; he coughed much, without expectoration; mucous râle at both sides of the chest; frequent diarrhœa. Some emollient drinks, with opiate lavements, were ordered. For

the next eight days there was little change in the patient's state. He had three attacks of convulsions, but no other symptom of cerebral disease, except a constant and very peculiar movement of rotation of the head.

On the 22nd, the child was brought back to the hospital, labouring under double pneumonia, and died in convulsions on the 25th.

On examining the *head*, we found the nervous substance of the cerebrum generally soft and pale; two ounces of serum in the lateral ventricles, and in the occipital fossæ; in the centre of the right corpus striatum a tubercle, and another in the centre of the right lobe of the cerebellum; the surrounding nervous tissue was neither softened nor injected in either place; the bronchial tubes were filled with muco-purulent matter; the posterior mediastinum contained a mass of tubercular glands as large as the fist; adherence of the lungs to the chest on the left side; numerous tubercles, both miliary and large, in both lungs, with points of grey and red hepatisation disseminated through the different lobes.

Abdomen.—The liver and spleen contain numerous tubercles, and the mesenteric glands are also extensively tuberculised; kidneys healthy; intestinal canal not examined.

Case IV.

TUBERCLE OF THE SPINAL MARROW.

Headach; difficulty of speaking; paralysis of the right side, with alterations of contracture and convulsive movements; pain along the spine; death.

Jane Briard, 13 years of age, was admitted into hospital on the 20th of February. About a year ago this child began to experience severe pain in the left side of the head, which continued, without intermission, for four months; eight or ten days after its accession she was observed to be unable to pronounce words distinctly, as if the tongue were too large for the mouth; the tongue deviated towards the left side; three weeks later, the pain extended to the upper part of the cervical vertebræ, and the left arm became the seat of convulsive movements, followed by gradual loss of power over the limb, and complete paralysis, without much diminution of the sensibility. The patient complained of a creeping sensation in the right arm and leg, with a sense of burning, and whenever the limbs were moved she cried aloud. Confined to bed for the three first months she was at length able to walk a little, with the help of a stick, and for the last six months she has been subject to diarrhœa, with cough and some dyspnœa.

March 1. Periodical headach; intellectual faculties somewhat dull, but no delirium; face distorted; right eyelid lower than the left; right nostril nearly immoveable, with incomplete paralysis of the muscles on the right side of the face, where the sensibility is also diminished; tongue deviates to the left side; violent pain in the back of the neck, with stiffness of the cervical muscles on the right side; contracture of the right arm, with almost total loss of motion and sensation; percussion furnishes a dull sound under both clavicles, with cavernous respiration and gurgling behind; coughs frequently; much thirst; skin not warm; diarrhœa; pain on pressure in the umbilical and iliac regions. The child continued nearly in the same state, but with more fever, until the 8th, when she was seized with considerable agitation and vomiting; on the 9th, the abdomen was tympanitic and very painful; the pulse hard and frequent; the respiration irregular and broken; the diarrhœa persisted, and the stools were passed involuntarily; there was also severe pain in the right arm and leg when moved. Towards evening the breathing became extremely difficult, a cold sweat set in, and the child died at one o'clock in the night.

Body examined 21 hours after death.

Head.—Pia mater infiltrated with serum on the surface of the brain, with injection of the vessels.

Spinal Canal.—At two inches and one-third below the lower edge of the pons varolii the substance of the spinal marrow was evidently softened to the extent of an inch and a half, and was of a light rose colour; in the midst of the softened nervous tissue there were two small tubercles, one about the size of a large nut, being half an inch in one diameter, and four lines in the other; beside it lay the second tubercle of nearly the same shape and volume; they were much closer to the posterior surface than to the anterior one, and adhered posteriorly to the dura mater; the remaining portions of the spinal marrow were healthy.

Chest.—Recent adhesions between the lung and chest, on the right side and above, with sero-purulent effusion; a tubercular cavity was also found in the upper part of this lung, and numerous tubercles throughout; a smaller cavity in the summit of the left lung; heart soft; three ounces of serum in the pericardium.

Abdomen.—A quantity of serum in the peritoneal cavity; great extremity of the stomach, pale and softened; some ulcers near the termination of the ileum, and a greater number in the cœcum; injection and softening of the colon at various points; numerous tubercles in the sub-mucous tissue of the small intestines.

Case V.

Scrofulus constitution; habitual headach; symptoms of acute hydrocephalus; death. Softening of the central parts of the brain, with effusion into the ventricles.

Mary Mettaver, 7 years of age, admitted

on the 11th of September. This child has enjoyed good health, but a scrofulous taint is manifested in ulcerations, with tumefaction of the joints of two fingers. The patient has been subject to cough and headach, but is now free from both. She was put on a course of iodine. Between the 11th and the 1st of November, she was, on two different occasions, seized with violent headach, which was attributed to the iodine.

November 4. Severe headach; bilious vomiting, without any symptom of an abdominal affection; slight pain in the right side of the chest; pulse frequent; gum draught; mustard foot-bath.

5. Headach more severe, with continued vomiting; pulse slow and irregular.

6. Severe pain in the forehead; plaintive; low cries; alternate paleness and flushing of the face; pupils largely dilated; no strabismus, or grinding of the teeth; skin cool; pulse irregular, 70; has vomited several times; the bowels constipated since the commencement of the acute attack; no lesion of the intellect, of motion, or of sensibility; the patient, however, seems inclined to dose; 4 leeches behind each ear; purgative lavement; sinapisms to the feet.

7. Face slightly flushed; no vomiting, but constant nausea; as the lavement produced no effect, a second was thrown up, which brought away an abundant evacuation; pulse 70, irregular; no particular change worthy of notice has taken place since yesterday; 3 leeches to each temple; 8 grains of calomel; cold lotions to the head; sinapisms to the feet.

8. The headach persists, with some somnolence and dilatation of the pupils; the child cries occasionally; pulse 72; the calomel has produced several stools, which, as well as the urine, are passed in bed; 2 leeches to each temple; calomel 4 grains.

On the 9th, as the symptoms continued unabated, 3 leeches were applied to each temple, and the calomel continued.

10. Face pale on one side, flushed on the other; the child expresses her suffering by sharp cries; skin getting warm; pulse 100.

11. Pulse 120; sharp anxious cries; face alternately pale and red; headach severe; pupils largely dilated; occasional delirium; 2 cupping glasses to the temples.

12. The child lies in a state of somnolence, with low muttering delirium; skin warm; pulse 120; a seaton in the neck.

13. Lies in the same state of semicoma, but her cries are more acute and frequent; pulse 124; a cautery over each ear.

14. The child has passed a tolerably quiet night; somnolence; low delirium occasionally; pulse 130; no lesion of the sensibility or motility; no strabismus; no convulsions; pupils less dilated than they have been; the senses of hearing and seeing are preserved.

15. Coma, with low moans; tracheal râle; pulse 132, feeble; pupils dilated and immoveable; blindness with strabismus; no contracture or paralysis of the limbs; a stimulant draught.

The child died in the night.

Body examined 56 hours after Death.

Head.—Dura mater normal; two or three spoonfuls of clear serum in the base of the cranium. The membranes on the convex surface of the brain are healthy; at the base, however, in the fissures of Sylvius both membranes are thickened, and the pia mater adheres to the cortical substance. Here there is a multitude of miliary tubercles, surrounded by infiltrated purulent matter; there are, also, some granulations in the fissure of Sylvius. The cerebral substance is pale, the lower portion of the corpus callosum, the fornix, and posterior part of the lateral ventricles are converted into a creamy substance. There are about three ounces of serum in the lateral ventricles. On the upper part of the left lobe of the cerebellum, there is a small tubercle; the surrounding tissue is but slightly altered; a similar tubercle exists on the lower surface of the right lobe.

Chest.—Larynx and bronchi healthy. A very small cavern in the summit of the left lung; numerous tubercles in the parenchyma and bronchial glands. Ancient adhesions between the lungs and chest. The *abdominal* organs are all perfectly healthy.

REMARKS.

The above five cases together with four which I have published in another Number of THE LANCET, present a sufficiently correct sketch of the symptoms and progress of cerebral tubercle in its various stages. The first circumstance which strikes us is, that tuberculous deposit, even to a very great extent, may exist in any part of the cerebral substance without producing any disturbance of the œconomy during life. This is a very remarkable fact. If the brain be the organ of the mind, and if (as it seems to be highly probable) different parts of the brain minister to different mental faculties, is it not strange that a portion of the cerebral substance, as large as a closed fist, may be totally disorganised without any influence being exercised on the intellectual faculties or the other functions of the brain? But without speculating let us content ourselves with noticing the fact. In about one-sixth of the cases of cerebral tubercles which I have seen there was no symptom whatever of their existence during life. In several others the symptoms were highly equivocal, and might have been attributed to any other

cause. Thus, in the case of Mettaver, the only premonitory sign was habitual headach; after this had lasted for a certain time, symptoms very closely resembling those of acute hydrocephalus set in, and terminated fatally. In the other cases, however, the premonitory symptoms were much better marked, and consisted in some remarkable lesion of the motory power. It is here, in fact, that we must look for the essential symptoms of cerebral tubercle, and I believe that whenever long-standing lesions of this function exist in scrofulous subjects, they will generally be found to depend on tubercle of the nervous centres. The history of the case, if accurately noted, will often throw much light on its nature; the parents or relatives of the young patient will be found to have suffered from scrofulous affections, he himself, perhaps, bears external and visible signs of the malady; if the chest be carefully auscultted the presence of tubercles may be detected in that cavity, or we may, perhaps, find that some of the mesenteric ganglia are enlarged. All these circumstances will aid us in the formation of a diagnosis, which, it must be confessed, is extremely difficult. The nature of the malady must be determined mainly after the lesions of motility; yet how various, how uncertain are these; how difficult to connect them together, or refer them to any particular part of the organ which we suppose to be injured.

In our first case the child had some indeterminate cerebral attack at the age of seven, which was followed by amaurosis for nine days. Now, amaurosis is one of the occasional symptoms of cerebral tubercle; but how difficult was it to connect the symptom and its cause in the case of Humanery, to which I now refer. During two years the muscles of the face were occasionally convulsed in a peculiar manner, without any other symptom, and the child died suddenly, with symptoms which resembled those of hydrocephalus in its clot. Here I would beg the reader's attention to a point which seems to me of the very highest importance in the history of cerebral diseases. A great portion of the obscurity and seeming irregularity of cerebral diseases in children, depends on our not having observed them accurately, and I am convinced that most of the cases which have been described as cases of "irregular hydrocephalus," of "cerebral inflammation, with abnormal symptoms," were simply nothing more than examples of cerebral tubercle; the symptoms, progress, and termination, are exactly the same in both cases.

In the second case, which I have related above, the symptoms produced by the tubercles in their chronic stage, were a peculiar nervous tremor of one side of the body, and then true epilepsy; in the third case, convulsions, with a peculiar rotatory movement of the head, while, in the fifth case, the only premonitory symptom was habitual headach. I had, therefore, some reason to say, that the symptoms of cerebral tubercle were very various and uncertain. Nevertheless, I feel hope that when I shall have placed before my medical brethren, a series of forty cases, some advance will have been made towards a better understanding of this difficult question.

ERGOT OF RYE.

To the Editor of THE LANCET.

SIR:—I should feel greatly obliged by your inserting the following article in your valuable Journal. I am, Sir, your most obedient servant,

JOHN BRACE.

London, Dec. 27, 1839.

Having attended some hundreds of cases of midwifery, I have had innumerable opportunities of witnessing the beneficial results of the secale coruntum, in the expulsion of the fœtus from the uterus; but it must be borne in mind, that great caution is necessary in its administration. I have been with females from 24 to 48 hours, and sometimes longer, when I have made up my mind to allow nature to take her course, the patient suffering the whole time from violent labour pains; the os uteri dilated to its fullest extent, and the presentation natural; yet, without the slightest contraction or expulsive action of the uterus. Finding that the patient's strength was departing, and that labour was not progressing, I thought it a favourable opportunity of trying the efficacy of the secale; however, I prescribed from 25 to 30 grains of the fresh powder, to be taken in milk, and in less than a quarter of an hour the patient was delivered, and apparently with much less pain than when nature was not interfered with.

The test of its efficacy, in ordinary cases of parturition, is clearly proved by the following results of its use:—When I have known a patient to suffer from alarming hæmorrhage during her former labours, I

waited until the os uteri was dilated to the size of a half crown-piece, then gave her from a scruple to a half drachm of the powder; when the patient was delivered there was not more than the ordinary hæmorrhage; and in lieu of her suffering from extreme debility, retention of the lochia, &c., (which invariably was the case) was enabled to follow her domestic pursuits within the accustomed time.

Out of innumerable cases of labour, when I have given the secale cornutum, serious hæmorrhage never occurred in a single instance.

I found, from observation, that when I gave smaller doses than a scruple I was foiled in my expectations; and that instead of producing an expulsive contraction, the uteus would remain tranquil. I generally give from a scruple to half a drachm, and repeat the dose every quarter of an hour, until evident signs of contraction take place.

I should certainly not think of giving it until the os uteri was dilated sufficiently to ascertain the presentation; neither in unnatural presentation, or where there was rigidity of the os uteri, unavoidable hæmorrhage, &c. I have found the following formula very beneficial in chlorosis, and also in leucorrhœa:—

Aloetic pill, 1 grain;

Powder of the secale cornutum, 2 grains. To be taken twice a day. Should uterine hæmorrhage continue, after the cessation of the lochia, I have always checked its discharge, by giving the patient from 5 to 10 grains three times a day in milk, at the same time giving bitter infusions, &c.

I am aware that theoretical men are decidedly opposed to the administration of the secale cornutum; yet it gives me great pleasure to find that its value is appreciated by eminent practitioners in midwifery, and I have no doubt ere long it will be valued by those who think light of its use now, especially when three or four hours sleep can be obtained by its use, in causing speedy and safe delivery, instead of waiting anxiously by the bedside of the patient.

CASE OF SCARLATINA TREATED ON THE TONIC PLAN.

BY J. SUTTON, Esq.

On the 23rd of October I was called to see a boy living in Windsor court, Strand, whose sister was just recovering from an attack of Scarlatina Anginosa, marked by symptoms of peculiar severity, assuming at the latter part the typhoid form, and attended by otitis and subsequent caries of the temporal bone. I found my patient, a boy of 12 or 13 years of age, thin but muscular, and with a temperament decidedly sanguineous, complaining of a sore throat, which, on inspection, presented a dusky red hue, great pain in the head, and intolerance of light and sound. The tongue was furred, and the abdomen was of a higher temperament than natural, and the bowels confined. The pulse ranged as high as 130, full and hard. An emetic was given, and followed by an aperient in a few hours. On my visit, the following morning, I found the symptoms precisely the same, and, in addition, patches of the efflorescence about the face and neck. His sister, a girl of a plethoric habit of body, 17 years of age, had the previous evening a rigor, &c., and then presented similar symptoms. An emetic was given to her, followed by an aperient, and on my visit the next morning (25th), I found in each the following symptoms: skin hot, dry, and covered with the eruption; constant restlessness, with occasional delirium; tongue red at the tip, and covered with a dirty white fur; lips dry and parched; and the teeth covered with a peculiar varnish. The urine was small in quantity, high coloured, and occasioned considerable scalding whilst being passed. The pulse was 140 in each case, hard and bounding, and there was great throbbing of the carotids. They both complained much of their throats, which, on inspection, were found to have the tonsils much swollen, and several small specks of ulceration on them. The tepid ablutions which I had ordered at the beginning, were still to be continued, and the following mixture was given:—

Disulph. of quinine, gr. xij.
Dilute. sulphur. acid, Mxx.
Comp spirit of lavand. ℥i.
Water ℥vj. A little *wine* occasionally.

Of this mixture the boy had one tablespoonful every four hours.

On the 26th, I found the symptoms in both much amended; but in the boy a greater change than I imagined possible, in so short a time, has taken place. His tongue is much cleaner and moist; bowels have been relieved; and his skin is cool and covered with perspiration. The pulse is 90, full and soft; perfectly calm and collected in his manner, and is able to swallow much better. The girl presents nearly the same symptoms, and is able to sit up and bear the exposure to light. She complains, however, of pain lower down in the throat, but on inspection, the redness is not so apparent, and the small ash-coloured specks have some of them disappeared. They were both ordered beef tea and the wine as yesterday.

At my visit on the 27th, I found the boy with a tranquil pulse, cool skin, profuse expectoration, and secretion of urine, and the throat much better. The eruption has left the skin, and there is not a single bad symptom remaining. The girl is not so well;

there is a considerable accession of fever, and a dusky hue of the face, which, joined to a slightly stridulous sound in the higher tones of the voice, and a purple appearance of the tongue, an appearance which I have often noticed, led me to suspect the existence of bronchitis, although as yet in a very slight degree. I ordered a powder, containing 10 grs. of hydr. cum. creta, and half a grain of opium every four hours. The wine and quinine were of course not persisted in.

28th. The boy is still improving; the girl better, but not entirely free from the bronchial symptoms. The skin, however, is cool, and the face has lost the dusky hue which it presented yesterday. The pulse is 80 and soft, and there is no pain, except in the head, and a little uneasiness in the stomach, caused perhaps by the quinine, which was again ordered, although in smaller doses.

29th. The boy is rapidly recovering, and the girl, with the exception of the pain in the head, for which small blisters behind the ears were ordered, has not a single bad symptom.

31st. Both are in a state of convalescence.

Jan. 2, 1840.

THE LANCET.

London, Saturday, January, 18, 1840.

To continue the review of the present state of the question of Medical Reform, we must revert to the Corporations. Medical science, though divided into departments, is essentially one, and the Corporations should strengthen the bond of union, which distance, time, dissimilarity of practice, and inequality of fortune, tend to sever. Good will would thus be fostered. The labours of inquirers would radiate to a centre, and throw a reciprocal light upon the whole world of science. But the Medical Corporations, instead of promoting harmony, have introduced inextricable confusion into the profession. The immense majority of the members are "CYPHERS, if not ALIENS." They are "so regarded by the self-elective Councils." They have no voice, no power, in the Corporations to which they are nominally attached. An eternal bar shuts them out from all offices of honour or emolument. Talent is dle—industry is vain. The stimulus which stirs generous minds in other careers is withheld. The SYDENHAMS and the JENNERS may confer endless blessings upon the community, and pass through life unrecognised, undistinguished; without a place, name, or rank, in the Councils of the Corporations. We have now a MARSHALL HALL and a CLARKE, licentiates; GRANT, CARSWELL, and SHARPEY, unlicensed; a FRANCIS HAWKINS, Registrar, a HALFORD, President, of the Royal College of Physicians. A small knot of self-elective, irresponsible, unscrupulous men seat themselves in the Councils for life, and regard the thousands of their brethren with contempt; or, at the top of their chartered voices call them "CYPHERS, if not ALIENS,"—a sound which must now ring through the land, and may, perhaps, reverberate in thunders through the College Halls. The 300 licentiates will hear it, the 10,000 members of the College of Surgeons will hear it, it will strike the ears of general practitioners in every part of the kingdom—the "CYPHERS, if not ALIENS"!

The arbitrary governing bodies cut themselves off from the commonalty. They carry on their proceedings in secret. They expend the money of the members. They pass by-laws in their own favour, and throw iniquitous monopolies into the hands of their creatures. And they do this under the present charters and laws.

The profession is not only disturbed by the isolation of the governing bodies from the governed, but it is further deprived of all efficiency and useful influence, by the subdivision into several licensing bodies; conferring the same title after the application of different tests, and different titles and ranks after the same or similar examinations. In London, the College of Physicians examines only in physic, excluding what is called surgery from pathology, as well as from therapeutics. Its licentiates are bound to abjure the practice of surgery By the by-laws no accoucheurs could become Fellows of the College. Sir CHARLES MANSFIELD CLARKE, accoucheur, by grace, of the ladies, and physician, by grace, of his

Grace the ARCHBISHOP of CANTERBURY, was brought into the medical world, and baptized, by the venerable head of the church; who still retains the miraculous gift of physical regeneration. The College of Surgeons excludes accoucheurs from the Council; and examines in anatomy, mechanical injuries, and what has been absurdly called external pathology. The Apothecaries' Company does not examine in surgery or midwifery; and it is to be feared that the majority of the examiners at all the colleges are very ill-qualified men, and have performed their tasks very imperfectly. In London, fellows and licentiates of the College of Physicians, members of the College of the Surgeons, licentiates of the Apothecaries' Company, the ARCHBISHOP of CANTERBURY'S creations, graduates of the English Universities, graduates and licentiates of the Scotch and Irish Universities and Colleges, are practising every department of medical science; and chemists, druggists, patent-medicine-mongers, MORISONIANS, and quacks of every complexion, tamper with the lives of a majority of the working, and many of the middle and higher classes.

The same confused collection of licensing bodies, the same anarchy, and the same want of unity, prevail in Scotland and Ireland. It may now be asked, is it necessary or desirable that a state of things which is in the highest degree disastrous to the medical profession, and to the public, should be allowed to continue for the sake of a few individuals who hold their seats by fraudulent and unjust, though legal usurpation?

It could scarcely be expected that the drafts of the parchments of the Medical Corporations in the 16th century, should be perfect: yet the early Charters and Acts under which the College of Physicians was founded, distinctly recognized the unity of the profession. The 32 HENRY VIII, c. 40, (A.D. 1540) has the following clause: "And forasmuch as the *science of physic doth* "*comprehend, include, and contain the know-* "*ledge of surgery as a special member, and* "*part of the same*; therefore, be it enacted, "that any of the same company or fellow-"ship of physicians * * * may, as well "within the city of London, as elsewhere "within this realm, practise and exercise "the said *science of physic in all and every* "*his six members and parts.*" The apothecary of the day was half a grocer, half a druggist. "The mystery or craft of apothecary" was confined to the compounding and sale of "wares, drugs, and stuffs;" he had no medical knowledge, and no medical rank: the officers of the College could enter his house at any time, search his stores, and burn or destroy any part of his stock, which they thought meet, at their discretion. Physicians often made up and sent out their own medicines. It is quite clear, then, that the Fellows of the College of Physicians were *general practitioners.*

A distinct class of surgeons, however, sprang up, and the apothecaries practised physic. But how did this happen, and how was the unity of the profession destroyed? By the grasping, ignorant policy of the College of Physicians, that had no sooner obtained the licensing power, than it wickedly wrested it from the legitimate use, and the avowed object of its foundation. The charter was granted "to promote the happiness of the inhabitants of this realm;" and "to repress the audacity of the wretches "who practised medicine from avarice, "rather than a good conscience." The College employed its power to limit its own numbers; a by-law fixed the number of licensed fellows in London at 20;* in 1618 there were 34. Now the annual deaths within the *bills of mortality alone*, in the years 1629—36, amounted to 15,292; and this implied the existence of 30,584 constantly sick persons requiring medical attendance.—900 constantly sick would require visiting every other day, on an average. Could the equestrian Fellow pay 450 visits daily in London? Is it wonderful that under each of the monopolists 450 deaths

* Lord Mansfield in Askew's Case.

occurred on an average annually? Is it strange that pestilence was rife? And is it not evident that to extend their individual practice, the remorseless Heads of the College sacrificed thousands of lives—deprived thousands of fellow citizens of the advantages of medical advice?

The public were driven to other sources for relief; the surgeons and apothecaries practised physic; they had influence to obtain charters, and the College of Physicians, when the call for an increased number of practitioners was irresistible, rather than open its gates, and render its numbers commensurate with the wants of the community and the age, saw the profession split into sections, and the licensing power abandoned to a band of trading city apothecaries—that it might enjoy the pitiful pleasure of seeing the general practitioners of the country stamped with a mark of inferiority.

A few of the corrupt medical corporators contrived to exclude the majority of their own body from the government of their respective colleges, and thus created further disunion. The six physicians who applied for the charter when they went to Parliament, prayed no longer as they did at first, that the *College* might elect the president annually, but that the *six* might choose *two* more of the commonalty, to be called and classed as *Elects*; the elects to choose *one of themselves*, annually, to be president, and, in the event of death, the survivors to admit a new elect from among the most *cunning* and expert men of the faculty in London. All the commonalty were fellows, and were designated fellows *(Socii)* in every edition of the Pharmacopœia down to 1677*—the period of the despotic, debauched, and degenerate Restoration—when the RUSSELLS' and SIDNEYS' blood flowed on the scaffold. Then occurred, for the first time, the names of 54 fellows, 12 candidates, 15 honorary, and 10 *licentiates (permissi)*, in the official list prefixed to the Pharmacopœia. The immortal SYDENHAM was placed among the licentiates, insolently declared by GOODAL, the College Swiss of that day, to be serviceable "*at least in some cures*," which he printed in his pamphlet in Old English, that the sneer might not be thrown away. A by-law limited the number of members who sat *in comitiis*, to 30; a charter (1633) extended the number to 40. The place of the fellows, like that of the elects, was to be filled up by self-election, "from the commonalty of members of the College."

CHARLES II expressed his readiness to give his royal assent to any bill based upon the base principles of the charter, and the College made an attempt to pass a bill which had been prepared; but, in the words of Mr. HUYBERT, "a Parliamentary Committee "dismissed the College-men as *re infectâ*, "and they returned home with a flea "in the ear." This did not prevent them from acting, to a considerable extent, on the principles of the charter; and the commonalty have, down to the present day, remained merely licentiates, *permissi*, practising by tolerance, but without power, rank, or influence, in the College Councils. The governing body has been engaged in depressing the licentiates; its corporate acts and by-laws will be found all directed to this end, and calculated to promote neither the science of physic, the interests of the profession, nor the public health.

The course of usurpation, division, and exclusion has run parallel with this in the other Corporations. We have selected the College of Physicians as an example, because, when compared with the total number of members, the governing body is more numerous than in the other Companies and Councils, and its recent history sinks it into the shade of less flagrant iniquity by the side of the London College of Surgeons and the Apothecaries' Company, where a small knot of individuals usurp all the power, divide the funds, and despise the unenfranchised members—the CYPHERS, *if not* ALIENS,

* "History of the Medical Profession."—*Medical Annual*, 1839, p. 171.

Sir Benjamin Brodie has retired from the office of Surgeon to St. George's Hospital, leaving behind him a good name for attention and humanity to the patients, and intelligence, and punctuality, as a clinical teacher.

In conducting this Journal we have but too often had to complain that the office of surgeon in our public hospitals has been filled by men whose private practice was so extensive that they could not honestly discharge their duty to their eleemosynary patients; or by men whose age and infirmities rendered them absolutely incompetent to execute the functions which they had undertaken to discharge. Finding how perverse many men have been in this respect, some having clung to their posts from a false ambition, others from a feeling of avarice, we have frequently seen that a ruling power was wanting to keep in check and prevent the misery which was constantly arising from the exercise of such unworthy motives. The Governors of Hospitals act like mere children in these matters. It is seldom, indeed, that they display such a degree of knowledge and energy as is demanded for the proper management of a hospital. Many surgeons have we seen who, having outlived all their faculties—though scarcely able to walk, or see, or feel, or understand—have been allowed to torture the patients, or to let them die, without hinderance from that ruling authority which should have feelingly and respectfully announced to them, at the first decline of their powers, that the period for their retirement had arrived. Other public medical officers are so constantly and industriously occupied in private pursuits, that they have not *time* to attend to their public duties. Such men, if they have not the decency or the humanity to withdraw from public offices which they do not competently fill, should be dismissed, and that, too, with but little ceremony. Now and then a man of integrity is to be found, who, discovering that his private engagements render the proper exercise of his public duties all but impossible, withdraws from a situation which he conscientiously feels he cannot continue to fill, excepting to the detriment, injury, and increase of suffering of the charity patients whom he has engaged to attend in a public institution. Sir Benjamin Brodie, by his retirement from St. George's Hospital, has offered to the profession a proper tribute of self-respect, and has sacrificed to the dictates of humanity! On different occasions we have had some contests with this distinguished surgeon. He has now ceased to be a public officer, and, consequently, he is no longer, as such, an object for our censure or our approbation. At one time he was very hostile to The Lancet, and we were not less opposed to *him*, but nothing that has ever passed shall induce us at this time to withhold the cordial bestowal of our applause for his withdrawal from a public institution when he found that he could no longer discharge conscientiously the duties of his office.

The example which Sir Benjamin has thus offered to some other surgeons, is one that could be speedily followed with great advantage to the public, though not exactly from the same reasons. It often happens that the inmates of a medical institution suffer less from absolute neglect than through the effects of actual imbecility—from that proneness, that restlessness of disposition, to do *something*, which is every now and then perceptible in the mind which has become all but a wreck, from age and infirmity. In instances of *neglect*, diseases may rapidly run their course, and terminate existence without much suffering; but to what horrors and tortures are not those patients doomed to submit, whose diseases are subjected to be treated by active, meddling, self-willed, incompetent practitioners, whose minds scarcely exhibit a single trace of the faculties which they were known to possess during the youthful and vigorous periods of their lives! Such men are not objects for attack: they create in all who observe them a mingled feeling of respect and pity,—*respect*, for the motives which still impel them to labour; *pity*, for the lamentable consequences

of their efforts. The columns of our Journal might readily be loaded with painful illustrations of the truth of what we have just written, but at present the following shall suffice, confining our attention to events at the Westminster Hospital, where interference is more especially and urgently demanded. The medical officer to whose proceedings we shall refer, is Sir ANTHONY CARLISLE, the senior surgeon of the institution, who obtained his election in 1793, forty-seven years ago. Five years since, the governors, fully sensible, as it seemed, of the impropriety of allowing a surgeon to retain office in the hospital at so late a period of life, considering that he was not only a useless, but an injurious member of the medical staff, whose share in the pupils' fees (£180 a year) ought no longer to tempt him to remain an officer of the institution, passed a law, that, in future, no physician or surgeon should be considered eligible to practise medicine in the hospital after he had attained the age of 65 years, Sir ANTHONY CARLISLE at that time numbering more than seventy winters, and having been a principal surgeon of the hospital during 42 years — "a pretty good innings," as it was observed, "for one man," and which it was expected that Sir ANTHONY would close, on this hint, by at once falling back on the office of "consulting surgeon," in which he could play only a very harmless game. But the belief in his good sense and right feeling in this respect was erroneous, and, up to the present day, the Westminster Hospital is unenviably distinguished by the practice of surgery, within its walls, on the principles of the last century, "modern innovations," as the senior surgeon terms improvements in science, being unworthy of adoption in medical treatment. For instance; within the last two months the opportunity has been afforded at the hospital of witnessing facts of the following description:—A man named MAYO, —WILLIAM MAYO, — was admitted with a severe contused wound on the front of the leg, which had been jammed between two barges. The tibia was extensively denuded, and the muscles were much torn. During the first two days the case was treated by the assistant-surgeon, who ordered, for the wound, light dressing, and the application of a poultice. On the third day Sir ANTHONY CARLISLE himself took the patient in hand, and ordered the leg *to be strapped!* This torture the man could bear for only a few hours, when the house-surgeon, very properly, by removing the pressure, relieved him from pain. But at his next visit Sir ANTHONY condemned the "modern innovation," and insisted that the plaister should be replaced. The result was manifested, as before, in a high degree of irritation, threatening erysipelas, and the house-surgeon, of course, declined pursuing the directions of the surgeon. Yet was it necessary to keep Sir ANTHONY quiet, day by day, for several days, by going through the farce of strapping the wound just previous to the visit of Sir ANTHONY, this treatment being superseded immediately on his departure from the hospital, by the more humane and judicious practice which he had just forbidden.

Not quite so long since as this,—about seven weeks back,—JOHN JAMES, another patient, was labouring under sloughing of the hand, from erysipelatous inflammation, to such an extent, that it became necessary to remove the index finger, and Sir ANTHONY CARLISLE valourously resolved to do the deed. The house-surgeon and pupils being summoned, Sir ANTHONY said to the patient, "Now, my good fellow, this finger, you see, "is never likely to be of any use to you, and "therefore I am going to *cut it off*," whereupon he took the scalpel from the house-surgeon, and set to work. But the patient perceiving that the hand of the surgeon trembled violently, vehemently objected to the operator, praying, "Oh, Lord, Sir, do let Mr. ARCHER take it off instead!" The amazement of Sir ANTHONY was unbounded, and laying down the knife indignantly, he exclaimed, "The house-surgeon, forsooth!

"Oh, indeed, things have come to a pretty "pass here."

But the house-surgeon promptly moderated the senior's vexation, by declining to interfere, and having persuaded the patient to submit, Sir ANTHONY commenced his task; but whether from the flurry and agitation produced by the patient's alarm, or the tremor of age, the surgeon only accomplished the removal of the *first phalanx*, and then, turning to the house-surgeon, in a subdued voice requested him to complete the operation. "Do "you take the bone-nippers, Mr. ARCHER," he said, "and cut it off lower down." Mr. ARCHER having complied, Sir ANTHONY cheeringly informed the patient that it was "all right," and the spectators were left to indulge in reflections in which the painful and the ludicrous were unavoidably mixed.

Assuredly the Governors of the Westminster Hospital cannot require a repetition of these exhibitions. They know what is their duty, but, if they have not the courage or the humanity to discharge it, let them no longer designate their hospital a "charitable" institution.

MEDICAL REFORM.

Dr. WEBSTER, Mr. DAVIDSON, and Mr. W. FARR, waited upon the MARQUIS of NORMANBY, on Tuesday, January 14, to receive his Lordship's reply to the inquiries submitted to him by the Deputation from the British Medical Association, the nature of whose proceedings, at a recent interview, with reference to Medical Reform, we noticed the week before last.

Mr. WARBURTON has engaged to proceed with the publication of the medical evidence, and to move for the *re-appointment of the Select Committee of the House of Commons* on the state of medical affairs. This, with the approbation and support of Her MAJESTY'S Government, will do.

WESTMINSTER MEDICAL SOCIETY.

Saturday, January 11, 1840.

Mr. STREETER, President.

CASES OF SALIVATION FROM MINUTE DOSES OF MERCURY.—OPIUM AND SPIRIT.—THE CHINA QUESTION.

Mr. ROBINS detailed the particulars of a case, in which a gentleman, hale and hearty, was profusely salivated, by taking about 40 grains of blue pill, for the cure of a chancre under which he laboured. The narrator of the case considered it curious, from the fact of the patient having, on a former occasion, been under the necessity of taking mercury, when it required a large quantity to produce constitutional symptoms.

Mr. WINSLOW considered the case to be one of those singular instances of idiosyncracy which we occasionally meet with. In those constitutions which were so remarkably susceptible of mercury, or where, from other circumstances, that medicine was inadmissible, he had found both primary and secondary syphilis satisfactorily cured by the iodide of potassium.

Mr. SNOW did not believe that the salivation which was occasionally produced by a very small dose of mercury depended on any idiosyncracy of constitution, which continued during the patient's life, but was the result of the presence of an excess of acid in the first passages. He had been led to this conclusion by having frequently seen patients salivated by a very small quantity of calomel or blue pill, taken at the same time with mixtures containing dilute sulphuric acid. Very lately a man, who was taking sulphuric acid freely for epistaxis, was severely salivated by two grains of calomel in a dose of cathartic pills. The acids naturally contained in the stomach were the muriatic and the acetic, and the mercury contained in a grain or two of calomel or a few grains of blue pill, would, of course, be sufficient to produce the most serious consequences, if changed into the bi-chloride. If the view he had suggested was correct, the means of preventing untoward effects would be to give corrosive sublimate at once, where a course of mercury was indicated, and to give it in suitably minute doses.

Mr. STREETER remarked, that the fact of the action of blue pill being much more powerful at one time than another, might be accounted for by the conserve of roses, with which the metallic mercury was triturated, being occasionally mixed with sulphuric acid, for the purpose of restoring its lost colour. Hence, instead of the simple oxide, the sulphate of mercury was producing its effects upon the patient. He had no doubt, however, that some constitutions were re-

markably susceptible of the influence of mercury in its mildest forms. He had seen severe salivation produced by the administration of nine grains of blue pill, although it had only been given in one grain doses three times a day, and its effects watched with the greatest care.

Dr. MUNK knew a family in which the idiosyncracy, with reference to mercury, was extreme. The mother had, on two occasions, been salivated by a single grain of calomel. Her sister and her five daughters were equally susceptible of the influence of mercury. One of the children, whilst labouring under peritonitis, had calomel administered freely to her; the effects were most disastrous, the inflammation being augmented by the occurrence of the salivation. The mercury seemed to have acted as a poison. The patient died, notwithstanding the most active depletory treatment. In opposition to the theory of Mr. Snow, he (Dr. Munk) would observe, that if the acid in the stomach was that which naturally existed there, there must, in cases where salivation followed minute doses of mercury, be a peculiar susceptibility to the effects of the medicine.

THE DISCUSSION ON OPIUM EATING AND DRUNKENNESS WAS RESUMED.

Mr. SNOW said that some of the previous speakers had spoken of alcohol and opium merely as two stimulants, differing more or less in their effects. He considered that alcohol was a simple stimulant, whilst opium had two distinct properties, that of a stimulant and that of a narcotic. The effect of spirit, including, of course, wine and malt liquors, which contained it, was the opposite of that of the sedative or contra-stimulant medicines, such as digitalis, green tea, antimony, the acids and neutral salts. It increased the force of the heart's action, and its frequency, except when it was already frequent from debility, and then it made it slower. It stimulated the whole body, and particularly the brain. When a considerable quantity of spirit had been taken sleep was generally produced after awhile; this did not depend on any narcotic property, but on the brain being overpowered and congested by the increased action of the heart. In persons with headach and depression of spirits, from drinking on the previous night, he had found the pulse harder than before the debauch, and he did not believe that alcohol produced, even in a secondary manner, any effect like that of the sedative medicines. Opium was, undoubtedly, likewise a stimulant; he had remarked it to produce a striking effect on the heart's action in a case of delirium tremens, and the increased force of the heart was continued, during the sleep which was induced, and also afterwards. It was also a narcotic, as was proved by its well-known power of alleviating pain, and procuring sleep. That a narcotic power was quite independent of that of a stimulant, was clearly shown in hyoscyamus and conium, which, so far from being stimulants, were positively sedatives. The narcotic property of opium appeared to reside in the morphia, and the stimulating one in the narcotine. The case, related by Mr. Smith, of an opium-eater who found hyoscyamus and conium no substitute for his opium, was interesting, as proving the difference between a stimulant and a sedative narcotic. These medicines were too apt to be prescribed, without attention to the indications which might always be gained from the pulse and heart.

Mr. VERRALL believed that the effects of opium and alcohol were very similar in some cases, though he admitted that these effects might be produced in a different manner. He considered that both the agents in question acted, first, as stimulants, and secondly, as narcotics. The feelings which predominated on the day following intoxication, by opium or morphia, were similar to those which were present when the state of inebriation had been produced by wine: opium seemed to act on the nervous system chiefly, alcohol on the vascular.

Dr. BURGESS was of opinion that the habitual use of opium was more prejudicial than the constant indulgence in the use of ardent spirits. He had known several instances in which young men had acquired the habit of intoxicating themselves by opium, merely for the purpose of the pleasurable feelings which it excited. The effects of this appeared to be similar to those resulting from excessive venereal indulgence. Opium eaters were wasted, and prematurely aged. He had observed that persons who bore wine badly, or were easily inebriated by it, were liable to be extremely excited by opium when taken in even minute doses, a fact, which verified the observation of Tralles:—"Illi vero omnes qui vinum non bene ferunt, vix bene ferent opium." He, Dr. Burgess, had observed that the habitual consumers of opium were frequently intoxicated by two or three glasses of wine.

Dr. A. T. THOMSON supported the opinion that the habitual use of ardent spirits was more injurious to health and longevity than was the constant employment of opium as an intoxicating agent. All stimulants, by exhausting the nervous energy, and thereby producing sedative effects, were, necessarily, narcotics; but the difference between opium and alcohol consisted in the anodyne properties of the former, and its power of relieving pain in a part remote from that to which it was applied, a virtue which was not possessed by alcoholic liquors The intoxication produced by opium dif-

fered from that which was the result of acohol. The opium eater when under the influence of the drug was roused into a state of high intellectual excitement, the dull man under its influence became eloquent or poetical; this was not the case when ardent spirit was the intoxicating agent, the effects in that case being a highly inflammatory state of the system. Opium in large doses acted as a direct sedative, whilst alcohol in the same proportion would produce a powerful inflammatory state of the stomach, and the patient would perish before the alcohol would be absorbed into the system. Opium produced no such inflammation. In some cases where death resulted from alcohol, after it had been absorbed into the system, it had been found to have produced high inflammation of the brain. Opium produced no such effects, but appeared to act upon the nervous system almost entirely, while alcohol excited the vascular system. He believed that whatever produced a decidedly sedative influence upon the system, by preventing the due arterialization of the blood, and diminishing the secretions, would diminish and destroy the vital power. He had known many opium eaters, and what were they but a species of mummies? Opium eating, he contended, shortened life, but not so decidedly as did ardent spirits, the latter producing hepatic disease more rapidly and more frequently. He did not believe with Mr. Verrall, that the day following the intoxication by opium, the patient suffered from the same distressing feelings which he did on the morning that following ebriety by spirits. In the case of a woman who was in the habit of swallowing about three ounces of laudanum daily, and could not rise from her bed until she had swallowed an ounce and a half of the stimulus, the hand of the patient when debarred from her usual dose was not tremulous, she was not nauseated, nor did she suffer from the same symptoms which attacked the spirit drinker when his usual stimulus was withheld. With the view of curing her of the habit, he recommended her instead of getting her laudanum by a quart at the time to have two gallons at once, and for every wine-glassful of it she took, to put into the vessel containing it a wine-glassful of water. She proceeded with the plan for some time satisfactorily, but returned to her usual dose again on the occurrence of some severe domestic calamity.

Mr. Roderick observed, that in all the cases which Sir B. Brodie had experimented upon with opium, the animals invariably died if the pupil was contracted, if it were dilated they recovered. How did Dr. Thomson reconcile this with his assertion, that opium did not excite as did ardent spirit?

Mr. Gregory Smith had observed in one case he had seen, that a large quantity of spirit taken into the stomach had acted as a direct sedative.

Dr. Crowne observed, that the facts which had been collected with reference to the evils of opium eating were not very available to the present discussion, as the practice in question had different effects in different countries. One point of interest in the question was an inquiry into the diseases, to the occurrence of which opium eating gave immunity; the most remarkable of these was the freedom of the opium eater from the "taking cold," and its consequences; with reference to the comparative effects of opium and alcohol on the longevity and moral habits of a people, he should say, from the facts which he had collected regarding the latter, that it had the much more baneful influence of the two. He thought that if the assertion that opium eating increased with the increase of Teetotalism were promulgated, it would have a bad effect upon the praiseworthy labours of many promoters of temperance societies.

Mr. Downing, in his reply, alluded to the last observation which had been made, and also to that which had reference to the confinement of the question to this country. Now, he had no such intention, but wished particularly, as the opium question was at present so much agitated, to inquire into the effects of opium eating throughout the universe. He had done this also, because some of the newspapers which had taken up the subject had contended that as opium eating was less injurious than spirit drinking, it should therefore be rather sanctioned than interfered with. With reference to the discussion on the relative evils of spirits and opium, he could only observe, that "doctors disagreed." One gentleman, opposed to his views, had declared that he did not believe the accounts of travellers in reference to opium eating, and, to disprove the account of several others, had absolutely brought forward the testimony of a single traveller! But this traveller was a medical man, so were several of those whom he, Mr. Downing, had referred to. Drs. Russell and Smith might be mentioned among others. It had been objected that he had given no statistical evidence of the increase of opium eating in this country. He had, since the reading of his paper, endeavoured to supply this deficiency, but he had not succeeded in doing so satisfactorily. In referring to the quantity of opium on which duty had been paid during the last few years, he had found that in 1836, there was 38,550 hogsheads bonded; in 1837, 36,800 hogsheads; in 1838, 30,800; in 1839, 40,000 hogsheads. The increase in the last year might be fairly attributed to the China trade being partially suspended. He had also written to several of the wholesale and retail druggists to inquire if they had found the sale of opium in-

crease of late; the answers he got were some of them curious: thus, one said, "The question was not easily answered, it would take a week or two to think about it, the inquirer had better call on him;" another said, "He had found in his own shop no increase in the sale during the last two or three years, but he had been informed that in other shops the total reverse of this had been observed;" another said, "That opium eating had increased of late among the lower and depraved orders of the people, but in *his* neighbourhood it was no such thing." Mr. Downing was about to amuse the meeting with other important and scientific communications from the retail druggists of this capital, but was stopped by the President as being out of order.

Dr. THOMSON inquired what various speakers meant by the different effects of opium in different countries, as he contended, that this difference depended on the individual, and not on the climate.

Dr. STONE, in illustration of the truth of the latter remark, observed, that when the Ettrick Shepherd inquired whether opium eating would produce in him the same delightful dreams as it did in De Quincy, was favoured with this answer by the English opium eater:—"Sir, a man who thinks about cattle will dream about them."

MEDICAL REFORM.

THE following Petition has been adopted by the British Medical Association for presentation to Parliament:—

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled:

The humble Petition of the British Medical Association,

SHEWETH,

That your Petitioners are a large body of legally-qualified medical practitioners, known as "The British Medical Association," being graduates of the Universities, or fellows, members, or licentiates of the several existing Medical Colleges and Corporations of this Kingdom, who have associated themselves for the express purpose of considering the various questions affecting the public health, and the rights, privileges, and respectability of their profession:

That your Petitioners, during the last three years, have devoted much time and attention, and have collected much information and many facts, in connection with these important matters, for which the nature and extent of their Association is well adapted, consisting as it does of a large body in the Metropolis, with Branch Associations, or members, in most parts of the United Kingdom:

That your Petitioners have also opened communications and carried on an extensive correspondence with similarly constituted Associations in England, Scotland, and Ireland:

That your Petitioners have long beheld, with deep regret, the many serious evils which have arisen from the anomalous and imperfect state of medical education and government; that these evils are, in the opinion of your Petitioners, the natural consequences of the deplorable system of SELF-ELECTION and COMPLETE IRRESPONSIBILITY which prevail in the Colleges and Corporations, and loudly call for the interference of Parliament and the speedy enactment of a general measure of Medical Reform:

That your Petitioners have, on several occasions, approached your Honourable House on matters connected with medical policy:

That, in 1837, they presented a Petition, fully setting forth the dangers to the public, and the grievances which affected the medical profession, from the present system; in 1838, a deputation from your Petitioners had an interview on the same subject with the Right Honourable the then Secretary of State for the Home Department, who seemed deeply interested by the statements made to him, and expressed himself most favourably as to the complaints of your Petitioners:

That in 1838, several of your Petitioners were examined before a Select Committee of your Honourable House, on the subject of Medical Relief to the Poor, and on the injustice done to medical practitioners by the working of the Poor-Law Amendment Act, chiefly from the neglect of the various medical colleges and authorities in not taking the proper steps to avert or remove such evils:

That as the cause for such complaints continue unabated, your Petitioners again approach your Honourable House to state, that they have for a considerable time been anxiously looking forward to the adoption of some measure of Medical Reform, founded on the mass of valuable evidence collected in 1834, with much industry and care, by a Committee of your Honourable House; at the same time your Petitioners are not ignorant of the many difficulties in which the subject is and has been involved; they are the more urgent at the present time, in order, if possible, to arrest the injurious consequences likely to arise from a recent decision in one of the courts of law, respecting the practice of chemists and druggists, which decision has demonstrated, in the clearest manner, that none of the existing Colleges or Corporations are in the possession of sufficient power to put a stop to irresponsible and illegal practice; and that as the law at present stands, the most ignorant may, with perfect impunity as to any penal consequences, commence the practice of me-

dicine or surgery in any part of her Majesty's dominions:

That it is the matured opinion of your Petitioners, that the hitherto divided branches of Medicine and Surgery are one and the same; that they constitute but one science, yet are there in the United Kingdom no less than 19 licensing and graduating bodies, differing widely from each other in their requirements of candidates, though none of them possess the power of conferring the right to practise in every part of the kingdom:

That this acknowledged want of unity in the medical profession has been attended with the most serious consequences, not only to medical men, but to the community at large; to the former it has been a fertile source of endless jealousies and discontents among the different graduates and licentiates; and to the latter, who are at all times very incompetent judges of professional ability, it has been attended with the most baneful effects, and in many instances with the loss of life:

That as it regards these various graduating and licensing bodies, however well they might have been adapted to the times and circumstances from which many of them date their origin, they are utterly inadequate to the wants or increased intelligence of the public and the profession in the present day:

That in the opinion of your Petitioners, the only safeguards to the community against the dangerous practice of ignorant and incompetent persons, would be the union of the profession into one body and the establishment of a uniform high qualification for admission, the result of an efficient course of preliminary and professional education:

Your Petitioners, therefore, earnestly implore your Honourable House to take this important question into your most serious consideration, and direct that a Bill may be passed as speedily as possible for the Union and Consolidation of the Three Branches of the Medical Profession into ONE Faculty, or Institute of Medicine, having full powers to regulate the education and government of the whole body, and to confer equal rights and privileges:

And your Petitioners, &c.

PRUSSIC ACID IN PHTHISIS.

The effects of medicinal substances have so seldom been observed with exactitude that we are glad to record the following, from a recent number of the "French Medical Gazette."

M. Andral has employed prussic acid in various stages of pulmonary consumption. We select twenty-four cases, of different ages and sexes; fourteen of these were males, ten females. Of the former, one was 26 years of age; two, 23; one, 24; two, 27; one, 30; two, 34; one, 36; one, 39; one, 45; and one, 52. The ages of the females, were 19, 27, 28, 33, 34, 36, 39, 48, and 64.

Stage of the disease. — *Males.* Three were affected with tubercles, in the first stage; in two, the tubercles were beginning to soften; in one, they had passed to the second stage; in two, small caverns had formed; and six were in the last stage of tubercular consumption.

Females.—In one, the tubercles were in the first stage; in two, in the second; and in seven, in the third stage.

*Dose.**—For the males, the lowest dose at which it was necessary to stop, was ten drops; one patient was able to take twenty-four drops; the others, from sixteen to twenty-four. When carried to the dose of twenty-eight drops, nervous accidents were produced. For females, the minimum dose was eight drops, the maximum, eighteen.

Effects.—In the greater number of cases, the effects of the remedy were absolutely null, and in some, the symptoms were even aggravated. Thus, in one female the vomiting was increased; in a male, the diarrhœa and colliquitive sweats became more frequent. In the female, aged 64, the abdominal pain was greatly aggravated. In some cases, each spoonful of the mixture occasioned severe coughing, and in others, dyspnœa.

Three patients were apparently relieved; the following is a brief account of their cases:—

Case 1.—A man, 52 years of age, affected with tubercles in the second stage, took the prussic acid for two months, the dose being gradually carried to 18 drops. He experienced some sensation of heat about the epigastrium, and slight feebleness. He affirmed that his cough was better, and felt so well that he left the hospital. There were, however, no signs of amelioration, so far as the symptoms were concerned.

Case 2.—A girl, 19 years of age, had tubercles in the first stage, but on the point of softening. The febrile symptoms were high; pulse, 120; but the cough and dyspnœa were moderate. The dose was gradually carried to 16 drops, and continued, in this quantity, for a month. The medicine occasioned heat of surface, giddiness, and then sweating. The febrile symptoms gradually abated, and she left the hospital, certainly somewhat better, but with night sweats. M. Andral attributed her improvement, not to the medicine, but

* The acid employed was that prepared after the formula of Gea-Pessina. It contains one atom of anhydrous acid to five of water.

to the fact, that the softening of the tubercles was now complete, for the existence of small tubercular cavities was manifest.

Case 3.—A young man, 20 years of age, was admitted into La Charité, with tubercles in their first stage. He left the hospital, improved, in a few days, but the amelioration might as well have been attributed to rest and diet, as he had just returned, much fatigued, from a long voyage.

Fourteen of the patients died under treatment; seven were dismissed without having experienced any benefit. Hence, we may fairly conclude, that in the 24 cases just mentioned, the prussic acid exercised no influence over the symptoms or progress of pulmonary consumption.—*Gaz. Med. de Paris*, Jan. 11, 1840.

THE EXAMINATIONS AT APOTHECARIES' HALL.

Armado.—The omnipotent Mars of lances, the Almighty, gave Hector a gift.
Dumain.—A gilt nutmeg?
Longaville.—A lemon.
Dumain.—Stuck with cloves? That mint.
Loves' Labour Lost.

To the Editor of The Lancet.

Sir:—Gentlemen who are going to pass their examinations at Apothecaries' Hall, may not be aware of some questions that, not to answer, would cause the immediate rejection of the candidate. I, therefore, beg you to insert the following list in The Lancet,—questions that I can assure you have been asked. The student is seated at a table covered with rhubarb, senna, carbonates, and sulphates, with sundry packets of ergot of rye, of the value of 13½d. each,—packets of so small a value as 1s. not being sold, *even to licentiates*, by this learned (!) body. The examiner is a gentleman neither above nor below the middle height, with a low narrow forehead, the animal organs well developed behind. Placing on his nose (evidently a vegetable production, being *a little reddish*) a pair of glasses, he commences thus:—

"Place an extinguisher on the sun, and tell me how soon it will be darkened?"

"Throw cold water upon hot coals, and tell me when you hear a hissing noise?"

"What is the class and order of a leech?"

Here the youth was at fault. He knew that in his native country farriers were called "land-leeches."

"What class and order?"

Of course he dare not say—*nondescript*. Consequently, rejected.

"How do the trade-winds blow?"

"What distance is the moon from the earth?"

"How would you plant a hop-garden?"

"What is this?"—"I do not know."

"Not know, sir? Why what will your coffin be made of?"—"This is elm-bark, sir, but scraped."

"Mind what you are about, sir. Now for some anatomy. Describe the tongue?"—"It is triangular in form, and placed in the mouth. It is the organ by which we utter sounds, and is composed of muscles, nerves, and blood-vessels. At the back part is a foramen (cœcum); but some say it is not a foramen, and the anatomist, Magendie, has found out that it is an opening leading to the thyroid gland, the *foramen coxfixius*."

"Very good, sir; that will do. You have read French, I find—you are a good anatomist—*very minute*. I wish you every success."

Now, since this question was asked only a few weeks ago, I suppose we shall have them asking soon, What is the situation of the *foramen coxfixius*.

I appeal to the members of this body in sober sadness to pause; to cease asking such silly questions; to make the examination practical and medical; to take the general merits of a candidate as their test of his qualification, and not the answering of some few isolated questions. Then may they become respected instead of despised.

Homo.

TREATMENT OF GONORRHŒA.

To the Editor of The Lancet.

Sir:—Having observed, in a Report of the London Medical Society (contained in an early Number of your present volume), a discussion on the treatment of gonorrhœa, by injections of nitrate of silver, I beg to forward my experience on the subject.

I have, in several cases, made use of the remedy in question, but have never ventured to carry it to the extent Mr. Roberts appears to have done; the greatest strength I have used it, being 5 grains to the ounce of distilled water, and this I found, in three cases, sufficient to excite severe local inflammation, indicated, as in his case, by a very great and thick discharge, containing some blood; the remedy was, however, continued at greater intervals, with the occasional use of iodine purgatives, and with the most satisfactory results, the discharge abating on the fourth, and entirely ceasing on the eighth day.

I have, however, when (in their very early stages) cases have come under my treatment, been in the habit of using cold distilled water as an injection, and giving the following mixture with success:—

Nitrate of potass, 3j;
Gum mixture, 3iij;
Tinct. of hyoscyamus, 3j;
Tinct. of opium, 3ss;
Syrup, 3j. Two spoonfuls twice a day.

With apologies for intruding upon you, I remain, Sir, your obedient servant,

PHILIP BURROWES, M.R.C.S.
29, Lloyd-square, Pentonville,
Jan. 4, 1840.

SEPARATION OF LIME FROM MAGNESIA.*

BY M. DOEBEREINER.

When chloride of magnesium very anhydrous is heated, that compound absorbs oxygen, and yields its chlorine. This decomposition, that is, the transformation of the chloride of magnesium into magnesia, is effected more rapidly when the chlorate of potash is used instead of air. This reaction permits the separation of the lime from the magnesia, and in the easiest manner. The mixture, or compound of dolomite, for example, which contains these two earths, is dissolved in hydrochloric acid; the solution is evaporated to dryness, the remainder is heated in a crucible in platinum so long as hydrochloric acid is disengaged, and when the mass is heated so as to be growing red, chlorate of potash is added to it in small portions, until there is no longer a development of the least trace of gaseous chlorine. The mass which remains after the evaporation consists in a mixture of chloride of potassium and of chloride of magnesium, which it is easy to separate by exposing them to the action of water, filtering the solution, precipitating the liquid by the carbonate of soda, &c. The author has convinced himself, by a great number of experiments, that the chloride of many metallic minerals may be decomposed in the same manner, and thus transformed into oxide, while the chloride of many other metals experiences no decomposition.—From the *Chemist*, N° 1.

The Editor of the "Chemist" would do well to follow the practice observed in every well-conducted periodical, and acknowledge the sources from which he derives his articles.

AMPUTATION AT THE SHOULDER-JOINT.

On Monday, the 2nd of September, Dr. Walker, of Charlestown, amputated at the shoulder-joint on a lad at Lynn, under the following very peculiar circumstances:—

On the 19th of August, A. E. Blood, aged 13 years, was kicked on the shoulder by a horse, while his hand was on his head; the axilla filled immediately. A physician was sent for, who, finding the parts much swollen, but no evidence of anything but a contusion, prescribed the remedies usual in such cases. Eight days from the accident there was a protrusion in the axilla, like a pullet's egg, of a bluish colour. By the advice of Professor G—, of N. Y. University, on the fourteenth day, an incision was made through the integuments just over the inferior edge of the pectoralis major. No bleeding or matter flowed from the incision; there was a little bloody serum. The operator not caring to look deeper for *matter*, merely dressed the wound lightly. The next day arterial hæmorrhage occurred from the wound. This was arrested by a compress and bandage, but not so but that it followed again the next day and the day after. It was at this juncture that Dr. Walker was sent for. He found the lad pallid from loss of blood, having lost, as was estimated by the physician, full two quarts. The parts about the shoulder were very much swollen; there was no pulsation at the wrist, or in the axilla. On examination, pulsation was perceived in the tumour. The arm was of nearly natural colour and temperature, with some appearance of commencing œdema.

Dr. Walker stated to the friends the nature of the case, for the cure of which he recommended one of two operations; either the tying of the subclavian, or amputation at the shoulder-joint. He stated the difficulties and dangers of both operations, the comparative safety of the latter, and the inevitably fatal result of the former, if, in cutting down for the artery, he should cut into the aneurismal cavity, and should be unable to find readily and secure the mouth of the bleeding artery. On a view of all the circumstances of the case, the friends desired Dr. Walker to amputate, which he proceeded to do, the subclavian being compressed, as it passes out of the chest, by an assistant. The arteries were secured by ligature, as they were cut, to prevent further loss of blood. On removing the coagula, about sixteen ounces, after the amputation, and looking for the mouth of the artery from which the bleeding came, the subclavian was found completely severed transversely as it passes under the clavicle, the separated ends of which were an inch and a half apart, so that had an attempt been made to tie the subclavian, the lad could hardly have escaped with his life. In what way was the wound of the artery produced? There was no external wound, and the artery was cut short off as clean as though it had been done with a knife. The lad is now, Sept. 9th, doing well.—*Boston Med. and Surg. Journal.*

* From "Jour. für Prac. Chemie," xvi.

BOOKS RECEIVED.

The Chemist, No. 1, Edited by Charles Watt, Esq. Hastings: London, 1840.

Illustrations of Cutaneous Disease, &c., by Robert Willis, M.D., Fasciculi viii, ix, and x. Balliere: London, 1839.

A System of Anatomical Plates, with Descriptive Letter-press, by John Lizars, F.R.S.E.; Part v. Lizars, Edinburgh; Highley, London.

Observations on Medical Education, with a View to Legislative Interference, by Richard Jones. Murray: London, 1839. 8vo, pp. 52.

An Introductory Lecture on the Anatomy, Physiology, and Diseases of the Eye, by Richard Middlemore. Longman and Co.: London, 1839. 8vo, pp. 30.

The Cyclopædia of Practical Surgery, Part iv., Edited by W. B. Costello, M.D. Sherwood and Co.: London, 1840.

The Cyclopædia of Anatomy and Physiology, Part xviii, Edited by R. B. Todd, M.D. Sherwood and Co.: 1839.

A Practical Treatise on the Diseases of the Eye, by William Mackenzie, M.D. Third Edition. Longman and Co.: London, 1840. 8vo, pp. 923.

Elements of Surgery, by Robert Liston. Second Edition. Longman and Co.: London, 1840. 8vo, pp. 800.

Bacchus; an Essay on Intemperence, by Ralph Barnes Grindrod. Pasco: London, 1839. 8vo, pp. 535.

The Family Medical Reference Book, by W. Brewer, M.D. Silverlock: London, 1840. 8vo, pp. 90.

The Modern Treatment of Syphilitic Diseases, &c., by Langston Parker. Churchill: London, 1839. 8vo, pp. 158.

The New York Journal of Medicine and Surgery, No. 1. Adlard: New York, 1839.

The Intimate Structure of Secreting Glands, by J. Müller. Translated by S. Solly. Butler: London, 1840. 8vo, pp. 166.

TO CORRESPONDENTS.

H. H. R. cannot recover payment of the fee unless he was summoned according to the form which is set forth in the schedule of the Medical Witnesses' Act, a copy of which was published in THE LANCET of August 20th, 1836, page 716. *A verbal notice is no summons at all.*

Veritas.—The conduct of B. was wrong, and an action, on a charge of libel, to recover damages, could be instituted. A. has no remedy if a jury do not supply one, which they possibly might not. A remonstrance with B. might produce a correction of the wrong, or an apology.

Mr. H. Taaffe, Dublin.—The resolution of the Poor-Law Guardians is an illiberal and injudicious resolution, but the example is set them in England, where a similar regulation is adopted as regards members of the London College of Surgeons.

J. A. S.—A surgeon is not, on account of his profession, exempted by law from serving as a juror at a coroner's inquest; nor is a barrister, nor an attorney.

A Medical Student of Hants.—The subject has frequently been discussed in this Journal. The remedy is in the hands of the parents or guardians, who possess, in the indentures, a bond for the performance of certain duties, which can be enforced at law.

Mr. John Green.—The coroner may summon whomsoever he chooses. He ought, however, to avoid the citing of persons who are known to have taken a prominent part, either as actors or partisans, in the matter of inquiry. It matters not from whom the coroner receives a direction to object to a particular juryman. Mr. G. could not be exempted from the duty on the ground of his occupation. The coroner, himself, must not exercise undue partiality in selecting a jury.

The respectable circulars of Mr. Walton, and Mr. M'Ivor, have been received.

Mr. Manley, surgeon (of or near Leigh, Lancashire?), will perhaps be so kind as to forward to us, by an early post, for publication, an account of the post-mortem appearances in the case of John Pemberton, of Tyldesley, who recently died from scirrhus of the pylorus. Mr. Anderton, of Leigh, has favoured us with a history of the patient and the treatment, but the communication is deficient in particulars which Mr. Manley can supply.

The communication of Mr. Slight next week.

P. W. T. should favour us by authenticating his letter with his name and address, whether for publication or not.

ERRATA.—In Mr. Barlow's paper on the excito-motory system, page 573, col. 1, last line but 3, *for* producing *read* preventing; col. 2, line 14, *for* masking *read* marking; page 574, line 14, *for* dish *read* dash.

In Mr. Boddington's paper, page 592, line 7, *for* minia *read* nimia.

In No. 14, p. 494, col. 1, l. 5, *for* because of *read* arouse.

We have received the Wigan Newspaper, containing the absurd and ignorant opinions of Mr. Ackerley, relative to the place of holding any particular inquest, but this week have not room for noticing the decision of the learned gentleman and his sapient colleagues.

Mercury, Blue Pill, and Calomel, their use and abuse. By GEORGE SIGMUND, M.D. &c. London: Renshaw, 18mo, 1840, pp. 129. Collected and arranged from Dr. S.'s Lectures in THE LANCET.

The letter of Mr. Davidson was received too late for insertion this week.

BEST COPY AVAILABLE